THE EFFECTS OF LIVING ARRANGEMENTS ON THE ACADEMIC PERFORMANCE AND RETENTION RATE OF COLLEGE STUDENTS OVER A FOUR-YEAR PERIOD

A DISSERTATION

SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION

ATLANTA UNIVERSITY IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF EDUCATION

BY

MARY A. BOOKER WARE

SCHOOL OF EDUCATION

ATLANTA UNIVERSITY
ATLANTA, GEORGIA
JUNE 1986

R: i-iv
T: 1-125

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

Dissertation Abstract

The Effects of Living Arrangements on the Academic Performance and Retention Rate of College Students Over a Four-Year Period

Ware, Mary A. Booker

Major Advisor: Dr. Olivia M. Boggs

Other Advisors: Dr. Rudolph V. Green and

Dr. Carson Lee

Attrition in colleges and universities has been high during most of the 20th century. Today's colleges are faced with high attrition rates and declining enrollments.

With fewer students available and continuing high attrition rates, institutions have increased their recruitment efforts and reviewed strategies for retention.

Improvement of institutional services and programs, including the expansion of living/learning centers in the residence halls, organized advisement programs and curriculum reforms were among the strategies suggested for retention in the literature.

As the need to increase retention becomes more obvious, administrators will need to use all of

their resources to decrease the attrition rate.

The purpose of this study was to determine the effects of living arrangements on the academic performance and retention rate of college students over a four-year period.

The ex post facto method of research was used in the study. The procedures used to obtain data for the research report included (1) permission from the president to conduct the study, (2) collecting data from pertinent offices, and (3) using enrollment data to identify the 180 subjects used in the study.

The place of residence over the four-year period was used to categorize the subjects into two groups: Students who lived on-campus and students who lived off-campus. The Scholastic Aptitude Test (SAT) scores were used to match the groups. Data from existing college files were collected on academic performance and enrollment over the four-year period. The hypotheses were tested through the use of percentages, correlation coefficients and a t-test.

Selected Findings

1. The mean academic performance of on-campus and off-campus students did not differ significantly.

2. The attrition rate after three years was more than sixty percent for both classes.
3. Students who lived-off campus dropped out in larger numbers than students who lived on-campus.
4. Female students dropped out in larger numbers than male students.
5. More graduates participated in co-curricular activities than non-graduates.
6. Some graduates and non-graduates were not involved in any activities over the four-year period.

Conclusions

Withdrawal from this historically black college appears to be a serious problem that has a number of implications for students as well as administrators who must allocate resources and plan programs. Living on campus appeared to be more positively related to retention and academic performance than living off-campus; participation in co-curricular activities appears to enhance student integration into the social system of the college. Therefore, a structure seems to be needed to more fully involve students in the total curriculum.

Living arrangements appear to be a mechanism that administrators can use as a basis for planning

and implementing programs designed to increase academic performance and retention.

Acknowledgements

The writer wishes to express her appreciation to the chairwoman of her committee, Dr. Olivia Boggs, for her advice and helpful criticism throughout the duration of this study.

She wishes to thank other members of her committee, Dr. Rudolph Green and Dr. Carson Lee for the concern, support, constructive criticism, and professional counsel which made the completion of this study possible.

Special thanks are offered to the President, the Registrar's Office, the Business Affairs Office, the Planning and Budget Office, the Student Affairs Office and all of the people whose assistance enabled the data to be collected.

Grateful acknowledgement is expressed to Dr. Fannie Hogan, Dr. Sidney Rhabsatt, Ms. Mary Ector and Mrs. Barbara DeVan for their support, expertise and understanding. Sincere appreciation is expressed to her family for their assistance, encouragement, and support during her years of professional study. Special thanks to her husband, Jonathan, and daughters, Jonalyn, Marcia, and Jennifer who understood when her studies had to come

first.

The writer expresses her thanks to her parents, Nathaniel and Hattie P. Booker, for their love and support.

M. A. B. W.

THE EFFECTS OF LIVING ARRANGEMENTS ON THE ACADEMIC PERFORMANCE AND RETENTION RATE OF COLLEGE STUDENTS OVER A FOUR-YEAR PERIOD

A DISSERTATION

SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION

ATLANTA UNIVERSITY IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF EDUCATION

BY

MARY A. BOOKER WARE

SCHOOL OF EDUCATION

ATLANTA UNIVERSITY
ATLANTA, GEORGIA
JUNE 1986

Dissertation Abstract

The Effects of Living Arrangements on the Academic Performance and Retention Rate of College Students Over a Four-Year Period

Ware, Mary A. Booker

Major Advisor: Dr. Olivia M. Boggs

Other Advisors: Dr. Rudolph V. Green and

Dr. Carson Lee

Attrition in colleges and universities has been high during most of the 20th century. Today's colleges are faced with high attrition rates and declining enrollments.

With fewer students available and continuing high attrition rates, institutions have increased their recruitment efforts and reviewed strategies for retention.

Improvement of institutional services and programs, including the expansion of living/learning centers in the residence halls, organized advisement programs and curriculum reforms were among the strategies suggested for retention in the literature.

As the need to increase retention becomes more obvious, administrators will need to use all of

their resources to decrease the attrition rate.

The purpose of this study was to determine the effects of living arrangements on the academic performance and retention rate of college students over a four-year period.

The ex post facto method of research was used in the study. The procedures used to obtain data for the research report included (1) permission from the president to conduct the study, (2) collecting data from pertinent offices, and (3) using enrollment data to identify the 180 subjects used in the study.

The place of residence over the four-year period was used to categorize the subjects into two groups: Students who lived on-campus and students who lived off-campus. The Scholastic Aptitude Test (SAT) scores were used to match the groups. Data from existing college files were collected on academic performance and enrollment over the four-year period. The hypotheses were tested through the use of percentages, correlation coefficients and a t-test.

Selected Findings

1. The mean academic performance of on-campus and off-campus students did not differ significantly.

2. The attrition rate after three years was more than sixty percent for both classes.
3. Students who lived-off campus dropped out in larger numbers than students who lived on-campus.
4. Female students dropped out in larger numbers than male students.
5. More graduates participated in co-curricular activities than non-graduates.
6. Some graduates and non-graduates were not involved in any activities over the four-year period.

Conclusions

Withdrawal from this historically black college appears to be a serious problem that has a number of implications for students as well as administrators who must allocate resources and plan programs. Living on campus appeared to be more positively related to retention and academic performance than living off-campus; participation in co-curricular activities appears to enhance student integration into the social system of the college. Therefore, a structure seems to be needed to more fully involve students in the total curriculum.

Living arrangements appear to be a mechanism that administrators can use as a basis for planning

and implementing programs designed to increase academic performance and retention.

CHAPTER I

INTRODUCTION

Rationale

Student withdrawal from post-secondary institutions is a serious problem that has a number of important implications for students as well as institutions (Pascarella and Terenzini, 1983). Emphasis has been placed on the need to retain students with scant attention being given to understanding the dynamics of the phenomenon. An understanding of the withdrawal/persistence dynamics would enable higher education administrators to plan more effective strategies to increase the holding power of the college.

Just what is involved in the withdrawal/persistence dynamics? Research studies show that it is a complex process. They further show that most studies have been institutional; thereby, making generalizations very difficult because institutional and student characteristics vary from institution to institution. However, the literature does show that persisters and dropouts have common characteristics that institutional researchers can use to guide a study of factors and circumstances that appear endemic to their institutions and students.

The 1980's marked the beginning of an era known as the "steady state" in higher education. Compared to the growing years of the 1960's and 1970's, institutions in the 1980's are faced with a leveling off of student enrollment and in some cases even a decline.

Scully (1980) noted the possible existence of a "demographic depression" over the next two decades which could lead to a decline in enrollment of 5 to 15%. During most of the 20th century attrition rates in colleges and universities have been alarmingly high (Summerskill, 1962). Cope (1978) predicted that approximately 6 million of the more than fifteen million students entering college will never earn their undergraduate degrees.

With fewer students available and continuing high attrition rates, institutions have not only increased their recruitment efforts but have also reviewed strategies for retention.

Improvement of institutional services and programs, including the expansion of living/learning centers in the residence halls and organized and aggressive advisement programs, have been among the strategies used.

As the need to increase retention becomes more obvious, administrators will need to use all of

their resources to decrease the attrition rate. A resource that colleges can use is existing data which would enable administrators to identify factors in the institution's environment that may be increasing the attrition rate.

The literature abounded with ways to improve academic performance (Astin, 1971; Noel, 1982; Organ, 1982; Pascarella and Terenzini, 1980) and retention (Astin, 1975; Chappel, 1984; Fuller, 1983; Pantages & Creedon, 1978). To date, little has been recorded that suggest ways in which studies of students' living arrangements on campus and off campus can be used as the primary mechanism for changing the behavior of students in a positive direction as per the purpose of this study.

Evolution of the Problem

The problem for this study grew out of the writer's experience in the Division of Student Affairs, particularly experiences in the Housing Office. Decisions had to be made regarding who got housed on campus. These decisions may have had a significant impact on the withdrawal/persistence rate of college students.

Most residential colleges do not have ample space to house the entire student body nor does the entire student body desire to be housed.

Space is set aside for a specific number of students, and policies are formulated to decide who will be housed.

The literature indicated distinct advantages for students who lived on-campus. Astin (1973) declared that students who live on-campus are more likely to remain in college until the baccalaureate degree was completed. Recent research between students who lived on-campus and students who lived off-campus suggested that students who lived off-campus were particularly vulnerable to college attrition. Based on this finding, the housing policy may have been skewed in a positive direction toward students who lived on-campus.

National reports disclosed the fact that students were not performing satisfactorily academically and that the survival of many colleges appeared to be threatened due to high attrition rates.

Year-end reports from the Registrar's Office showed that many students were performing poorly academically and that many students were dropping out. Reports from various campus offices confirmed the number of students who were having academic difficulty and the number of students who left.

Attrition and poor academic performance appeared to be increasing among students who lived on campus as well as among those who lived off

campus. However, no systematic study had been made to determine the nature of and extent of the problem.

Significance of the Study

The educational significance will be of a practical nature that will materially assist administrators who must plan and implement retention strategies. It will also assist administrators in the decision-making process regarding programmatic designs and changes that will not only reduce the attrition rate but will also provide the stimulants necessary for the students' positive growth and development in the areas of focus in this study.

Statement of the Problem

The problem deals with the question: Does living arrangement, whether on campus or off campus, affect the academic performance and retention rate of students enrolled in a private four-year college in Atlanta, Georgia, over a four-year period?

Background of the Problem

For more than five years, the writer observed that the academic performance of students who lived on campus appeared to be declining. Official records showed not only that a large number of students were on academic probation but also that

a large number of housed students withdrew from the college annually.

The decline in academic performance and enrollment have been attributed to many factors. Among them were the recruitment of under-prepared students, lack of financial resources, lack of adequate faculty/student interactions, low faculty remuneration and morale, poor institutional leadership and poor quality of teaching. The ineffectiveness of college administrators and the arbitrary assignment of freshmen to the residence halls on a first come/first served basis have been cited as contributing factors in the academic performance and enrollment decline. Both reasons cited may or may not be true. This writer found that no study has been conducted to empirically confirm or deny these speculations regarding academic performance and retention as related to living locus.

Other reports within the college indicated that housed students were not performing as well as commuting students. While these reports lacked empirical foundations, they also conflicted with the findings of several researchers (Astin, 1978; Chickering, 1974; Pascarella & Terenzini, 1982).

Astin (1973) conducted a study on the impact of

dormitory living on college students. He found that dormitory students were less likely to drop out and more likely to attain the baccalaureate degree in four years than commuting students.

Despite the conflicting reports and speculations, the attrition rate has risen within both groups. This increasing rate is cited as a major problem in higher education that must be reduced if some colleges are to survive.

In order to end speculation and conflicting reports, the writer examined existing data to determine what impact living arrangement, whether on-campus or off-campus, had on the academic performance and retention rate of students over a four-year period at an historically black college in Atlanta, Georgia.

Purpose of the Research

The purpose of this study was to determine the effects of living arrangement, whether on campus or off campus, on the academic performance and the retention rate of students enrolled in a private four-year, liberal arts college in Atlanta, Georgia, over a four-year period.

Scope of the Study

This study was limited to a selected number of students from designated classes who lived at their

place of residence: on campus or off campus for four consecutive years.

Limitations of the Study

The following limitations were inherent in the study:

1. The findings were limited to the two classes that were selected for the study.
2. The result may not be generalizable to other colleges whose student population may be dissimilar.
3. The interpretation of existing data may not accurately reflect all of the interacting variables that influenced the academic performance and the retention rate of past commuting and residential students.

Definition of Terms

The following terms were operationally defined for this study:

1. Living Arrangement - the type of housing in which students who lived on-campus and students who lived off campus resided during their college tenure.
2. Academic Performance - the cumulative grade point average that indicated the quality of a student's participation in the academic process.

3. Retention Rate - the number of students who began their college matriculation at a specified period and persisted for a specified period.
4. College Student - a person who is enrolled in an undergraduate program at a post-secondary institution that grants baccalaureate degrees.
5. Four-year Period - a set time interval of four years between the beginning of the freshman year and the end of the senior year of college.
6. Co-curricular Activities - organized out-of-class activities that are an integral part of the college curriculum.
7. Social System - a model of organization that possesses a distinctive total unity beyond its component parts; it is distinguished from its environment by a clearly defined boundary; it is composed of sub-units, elements, and sub-systems that are least interrelated within relatively stable patterns of social order (Olsen, 1968).

Research Method

The ex post facto method of research was used as described by Ary, Jacobs and Razavieh (1979).

Ary et al. (1979) stated that the designation ex post facto, Latin for "from after the fact," serves to indicate that the research in question is conducted after variations in the independent variable have already been determined in the natural course of events.

The authors used Kerlinger's (1973) definition of ex post facto research which had been quite succinctly defined as:

> systematic empirical inquiry in which the scientist does not have direct control of the independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made without direct intervention, from concomitant variation of independent and dependent variables, (p. 271).

The study attempted to collect data about the impact of students' living arrangement, whether on campus or off campus on academic performance and retention.

Since no instrument was needed for this study the researcher examined existing records to collect the data that were deemed pertinent to this study.

The broad categories of data collected and used in this study were:

1. students' academic performance
2. students' graduation status

3. students' participation in co-curricular activities

Data Analysis Procedures

The following procedures were used to obtain data for this research report:

1. Permission was obtained from the president to gather data from pertinent offices.
2. Contact was made with each office to work out specific provisions for collecting the data.
3. Data were collected on all freshmen who entered in 1980 and 1981, respectively.
4. Criteria set-up for the study were applied to get the needed sample.
5. Random selection was used to get the sample used in the study using the Scholastic Aptitude Test (SAT) scores as the selection criterion.
6. Data were set up for computer analysis.
7. Data were computed and presented in tabular form.

Basic Assumptions

Three basic assumptions were relied upon during the conduct of this study. It was assumed that:

1. students housed on campus would perform better academically than students housed off campus.
2. students who were involved in the social system of the college would perform better academically.
3. students who were involved in co-curricular activities would remain until graduation.

CHAPTER II

REVIEW OF RELATED LITERATURE

The review of the literature was completed in four areas considered related to this study. The areas were Attrition, Living Arrangement, Academic Performance and Retention.

The first section discussed the broad area of attrition, research methods used by others and the theoretical framework. The second section reviewed the historical development of living arrangements for college students and discussed pertinent studies and findings related to their impact. The third section focused on academic performance and its relationship to attrition, living arrangement and retention. The fourth section emphasized studies that had been done on retention and pointed out indicators that have been found to be successful in college retention.

Attrition

Attrition in college today is one of the greatest concerns in post-secondary education. This concern has been magnified by the notion that today's colleges are failing to provide the necessary support to retain students. Excessive attrition rates among freshmen have been cited as a

major problem by school administrators (Astin, 1975; Summerskill, 1962). The cause of attrition are numerous and many studies have been done to identify specific causes at selected colleges and universities.

Withdrawal from college is an important issue in higher education for many reasons. For the student, it may be a painful process because personal setbacks may result in impeded career development and the futile expenditure of money, time and effort. For some students and their parents, it may be a positive step due to the poor fit between the students and the institutions.

Withdrawal presents another set of difficulties for administrators because of inadvertent misallocation of limited educational resources. Consequently, educational decision-makers need to know who drops out of college and why.

The researchers who have investigated attrition as an area of study all agree that it is widespread. The rate of student attrition at most institutions of higher education is high and has remained high for more than 60 years (Summerskill, 1962). Summerskill reviewed 35 different studies made between 1913 and 1962. He found that the median loss of students in four years was 50 percent and

concluded that attrition rates had not changed appreciably between 1920 and 1962. Astin (1971), using a national sample, reported that 41.5 percent of the students enrolled in 1966 had not graduated four years later. Iffert (1958) reported similar findings in a survey of 147 institutions. Significant dropout rates have also been reported in Canada (Mehra 1973); Great Britian (Richling, 1971; Vaizey, 1971); and Australia (Baumgart and Johnstone, 1977).

Dropping out has always been accepted as a national corollary to college enrollment, with the assumption that attrition will be compensated, in part, by recruitment at the freshmen level (Mannon and Preusz, 1980, p. 20). Reducing student attrition and increasing student admission have been the chief concerns of most colleges and universities across the country. As student enrollment continues to decline, the cost of operating institutions increases. Today, the most critical issue facing higher education is the tremendous problem of operating with fewer students and, thereby, less money.

It is unlikely that the problems of enrollment will be reversed in the near future; therefore, institutions of higher education must cope with the

problems of getting more students and keeping those already admitted.

While attrition is a concern of all institutions, private institutions have a greater concern with reducing attrition because their institutional budgets are so closely tied to enrollment levels.

The goal of attrition research is first to obtain as complete an understanding as possible, and to apply this knowledge in designing programs aimed at lowering rates of attrition.

Research has contributed greatly to the understanding of the withdrawal process, but there have been many problems and many criticisms. The majority of the studies have been correlational studies at single institutions, often using follow-up surveys to establish why students left an institution. Many past studies of attrition have been atheoretical and descriptive using ex post facto designs rather than longitudinal designs. Because many of the past attrition studies lacked a theoretical base and involved simple correlations between dropouts and selected students or institutional characteristics, little is known about the reasons students are likely to leave a particular institution.

More recently, beginning with the work of Spady (1970; 1971) and Tinto (1975), theoretical models have been advanced to explain the variations in student attrition. Both of these models of student attrition were based on Durkheim's theory of suicide (Spaulding and Simpson, 1961). The link between dropping out of school and suicide is suggested as a theoretical basis for those models.

Bean (1980) compared a causal model adopted from employee turnover in work organization to student attrition. The turnover of students at a particular college or university was similar to workers in an organization. Both student and worker need extrinsic rewards. Grades and pay were extrinsic rewards that played an important role in the decision to stay or withdraw from the organization (Bean, 1980, p. 157).

Freshmen at a major midwestern university were used in Bean's study. The findings revealed differences in the reasons men and women drop out of an organization.

Institutional commitment appeared to be the most important variable for explaining dropout of students of both sexes.

Characterization of Men Who Dropped Out.

One may characterize men who dropped out as:

Students that were not committed to the institution, did not have high college or university grade point averages, were satisfied with being a student, did not believe that the education they were receiving was leading to their development, found their lives repetitive, did not know the social and academic rules of the institution well, and may have lived with their parents.

Characterization of Women Who Dropped Out

Women who dropped out of colleges or universities were characterized as students that were not committed to the institution, did not perform well in high school, did not belong to campus organizations, did not believe that going to college would lead to employment, perceived an opportunity to transfer, did not believe that education led to self-development, did not find daily life at college repetitive, were not committed to getting a bachelors degree, were not satisfied with being a student at the institution, did not participate in decision-making, did not feel that they were being treated fairly and did not meet with staff and faculty members informally.

Using this knowledge, retention programs must be designed to get students more involved in the life of the college. Informal contacts,

orientation programs and involvement in organizations can influence students' perception of and commitment to the institution.

The decline in the number of entrants may make the financial survival of many colleges dependent, in part, on reducing the number of withdrawals.

Peng and Fetters (1978) conducted a study that investigated the variables involved in withdrawals during the first two years of college. They found that persisters differed from withdrawals in several areas. Persisters had higher socio-economic status, ability, and academic preparation than withdrawals. They generally worked fewer hours and had higher aspirations.

The withdrawal process differed among types of colleges. For example, in the highly selective institutions, withdrawal was primarily a function of poor grades and lower aspirations, while the process in less selective institutions involved high school credentials, sex and race.

Students who withdrew cite many reasons, but reasons for dropping out should be regarded with skepticism since almost all the problems reported are shared by large numbers of students who do not withdraw.

Research strategies must be devised to ensure

that the reasons given for withdrawing describe only the students who are dropping out. Questionnaires or relatively short interviews cannot tap the complex reasons and motivations involved in attrition and can only identify factors that need further research. Furthermore, there is a danger in generalizing from the results of studies conducted at individual institutions because the interplay between the college environment and individual student characteristics have shown that different institutions promote different reasons for their student dropping out.

The central finding in research on reasons for withdrawing appeared to be that the reasons for attrition are many, and student attitudes were often ambivalent, which make it extremely difficult to determine the actual reasons for dropping out (Chickering, 1969; Cope, 1978; Cope & Hannah, 1975).

In their review of literature on reasons for withdrawal, Pantages & Creedon (1978) found many reasons cited, but the most common reasons related to academic matters, financial and motivational problems. Differences in the reasons for withdrawing have been analyzed by the student's year in college. The freshman year, it was found, determined the basic orientation to college and went

a long way toward either establishing or reaffirming certain enduring habits and values of life. Attrition during this year was generally for academic reasons.

Studies of attrition tended to concentrate on factors related to academic achievement of college students on the assumption that college achievement was positively related to persistence. Although such a correlation existed, recent research demonstrated that it was not the only variable influencing attrition since there was a higher than predicted attrition rate among scholastically high achievers (Pantages & Creedon, 1978).

Where a student lived while attending college and what type of housing the student lived in affected attrition. Research has shown that students who lived off-campus were much more likely to drop out than those who lived on-campus (Astin, 1973; Newcomb, 1962). Students who lived in a sorority or fraternity house had the best retention rate.

The research to-date suggested that housing was a significant factor, but it was unlikely a primary factor in attrition. It may be hypothesized that on-campus housing generally served a valuable and positive socialization function that facilitated a

student's adjustment and consequent satisfaction with the institution (Astin 1973).

Studies have found that grade point averages and class rank in high school differentiated potential dropouts from persisters (Chase, 1970; Panos and Astin, 1968; Summerskill, 1962). Calculations showed that students in the top fifth of their high school class were twice as likely to graduate as were students in the second fifth and eight times more likely to graduate than students in the lowest fifth of the class. The studies also showed that of those who dropped out for academic reasons, 73% were in the lowest quartile of their high school class and that 75% of those on official probationary status were from the lowest quartile. Astin (1973) found that the probability of getting a bachelor of arts degree in four years will increase by 70% if the student has a high school grade point average > 3.5.

Academic factors appeared to be the most reliable predictor of attrition. A review of research in this area showed that the relationship between high school GPA, class standing, and attrition seldom achieved a correlation above the .50 level. In view of this finding, several researchers concluded that academic factors did not

account for a significant number of those who dropped out, especially those who dropped out with satisfactory grades and college aptitude scores. Pantages & Creedon (1978) acknowledged that the correlation of .50 is true but stated that it should not be readily dismissed because the fact remains that academic variables were still the strongest single variable predictors presently available in the study of persistence and attrition. It must be noted that while high school performance has been an accurate predictor of college academic success, it does not predict persistence at the college level.

In the past only academic variables have performed well in the prediction of attrition, but many academic variables are not available until after the fact. In the days of declining enrollments and increased cost, it is critical that persons in higher education be able to predict attrition before its occurrence.

Shaffer (1981) conducted a study and found biographical information to be a good predictor of academic and non-academic factors related to attriton within the freshman year. Biographical information from student questionnaires was assessed. Results indicated that dropouts and persisters could be differentiated on the basis of

non-academic background factors. Male persisters had backgrounds of high academic achievement in high school, higher socio-economic status, and were allowed more freedom by their parents than male dropouts. Female persisters had histories of previous leadership experience, closer relationships with their mothers, higher academic achievement in high school than female dropouts. Additionally, subgroups of males identified as "high risk" remained stable in terms of their dropout composition over an eight-year period (Shaffer, 1981).

These findings suggested a strategy for identifying, at the time of admission, whole groups of potential dropouts and for planning some type of intervention to prevent attrition. Shaffer's findings were consistent with Peng and Fetters' characterization of persisters.

Students come to a particular institution with a range of background traits e.g., race, secondary school experiences, academic aptitude, and family background (Kohen, Nestle and Karmas, 1978; Pascarella and Terenzini, 1983). These attributes lead to initial commitments, both to the institution attended and the goal of graduation. Together with background traits, these initial

commitments influence not only how well the student will perform in college but also how he or she will interact with, and subsequently, become integrated into the institution's social system. Other things being equal, the greater the individual's level of social and academic integration, the greater his or her subsequent commitment to the institution and commitment to the goal of graduation, respectively. In turn, these commitments are seen, along with levels of integration, as having a direct and positive influence on persistence (Tinto, 1975).

Pantages & Creedon (1978) found voluntary withdrawal to be heaviest at the end of the freshman year. This finding is consistent with Kohen, Nestle and Karmas (1978) who also identified factors that affected individual persistence rates. They were:

1. students who worked during freshman and sophomore years were less likely to drop out, other things being equal, than those who did not work and to advance successfully in the succeeding years.
2. part-time students were more likely to drop out during the freshman and sophomore years.
3. students who received loans were more likely to drop out than those who received grants.
4. junior college students were more likely to

drop out than full-time students enrolled at a four-year institution (Kohen et al. 1978).

A noteworthy conclusion of this study was that the importance of these factors varied with the stage of the undergraduate career. The effect of having pursued a college preparatory program in high school was revelant only to the completion of the freshman year. Thus, the net importance of pre-college measured ability declines substantially after the freshman year and is non-significant by the junior year (Donovan, 1984, p. 250).

The findings of these studies suggested that what happened after arrival on campus may have a greater impact on persistence than either the background characteristics or personal commitments to the institution and the goal of graduation brought to the college.

Pascarella and Terenzini (1983) set out to validate Tinto's 1975 model. A cohort of 763 residential freshmen were followed over a 14-month period using path analysis. The results indicated that Tinto's conceptual models for the persistence/withdrawal decisions were generally quite consistent with their theoretical expectations and to have reasonable predictive power in

explaining variance in freshman year persistence/voluntary withdrawal decisions.

Mannon and Preusz (1980) conducted a study at a large urban university in the midwest using freshmen whose GPA's were under 2.0 as the sample population. They found that commuting students were not a captive participating audience. A sizeable part of the commuting student's commitment lay outside of the physical and psychological boundaries of the campus. Moderate commitment made it difficult to integrate the social and academic dimensions which Tinto (1975) found to be integral to college retention. Participation, another link to the academic and social systems, was found to be low. A student who participated in the curriculum established some identity with the institution. At times of wavering commitment this linkage can reduce the probability of a student's dropping out from college (Mannon and Preusz, 1980, p. 21).

Terenzini and Pascarella (1976) investigated the multi-dimensional differences in freshman perception and experience of the academic and non-academic aspects of college associated with varying amount of informal contact with the faculty. They found the amount of informal contact with the faculty to be significantly related to persistence.

Tata (1981) conducted an experimental study at the University of Texas at Arlington to determine the effectiveness of an intrusive advisement program on reducing attrition among freshmen. Student characteristics and needs were assessed based on questionnaire responses. All students were provided referral information on the on-campus services in a package; however, the experimental group was sent this referral information individually three times during the experiment. The mid-term grade reports were monitored and students whose reports indicated an academic problem were mailed a letter advising them of on-campus services that could assist them with their academic development. Prior to the final examinations, the experimental group was mailed a letter acknowledging the exams and expressing support for the successful completion of the semester, noting important deadlines and services available. Almost identical attrition rates for both the experimental and control groups were found. Tata concluded that the intervention failed to identify those students with serious academic problems early enough.

This study illustrated the importance of using pre-college characteristic data such as academic and biographical data to predict which

students were likely to have problems and to begin an intensive developmental program upon entrance rather than wait until the first semester grades are in before applying this knowledge in designing programs aimed at lowering rates of attrition.

Many researchers argued that colleges can lower their attrition rates by raising their admission standards. Slocum (1956) charged that since college students were not fully mature adults but were immature in many respects as far as their personal/social development was concerned, ample justification existed for raising entrance requirements so as to exclude individuals who are not of college caliber. Iffert (1957) supported this conclusion. He argued that attrition can be substantially reduced if colleges raise their admission standards. Little (1957) disagreed. The solution to attrition was not that simple and argued against this recommendation. His data showed that a larger than expected percentage of students from the top of their high school class dropped out. He also pointed out that 28% of the students from the lower 30% of their high school class graduated.

Carlson and Wagner (1965) suggested that admission officers should not be solely concerned with admission requirements for the entering

student, but also with the retention requirements. Once the college has accepted a student for admission, it should become actively responsible for the fate of that student. "Any failure of a student...should be seen for what it is - a failure for which both the staff and student are responsible" (Rogers, 1969, p. 192).

Several studies recommended pre-admission interviews (Davis, 1962; Younge, 1965). Blanchfield (1971) seriously questioned the utility of this method, arguing that these interviews tended to be highly informal, hurried, and led to judgements that did not include all of the relevant data. Prediger (1965) found that pre-admission counseling interviews produced no significant result in reducing student attrition. Increasing student admissions has become the chief concerns of most colleges and universities across the country. As noted previously, student enrollment continues to decline and the cost of operating institutions increases. The most critical issue facing higher education is this tremendous problem of operating with fewer students and, thereby, less money.

It is unlikely that the problem of enrollment decline will be reversed in the near future; therefore, institutions of higher education must

cope with the problems of getting more students and keeping those already admitted.

In summary, attrition in colleges and universities, today, is widespread. A review of the literature over more than 60 years revealed that attrition has remained high throughout this period.

In the past, attrition could be offset by increased admission, but today declining birth rates, increased costs and declining enrollments make retention programs necessary for the survival of institutions of higher educaation.

Early research on attrition was descriptive and atheoretical and the most common research methodology was ex post facto. The growing body of current research reflects theoretical bases and makes use of longitudinal methodology.

Research identified reasons most commonly given for withdrawing but warned that these reasons should be regarded with skepticism because almost all of the problems reported are shared by students who do not withdraw.

Factors associated with withdrawals were shown along with factors associated with persistence. The review provided an empirical basis that can be useful in predicting dropouts and

suggested strategies that can be useful in reducing the attrition rate.

This section placed the study in perspective and demonstrated the relationship of the variables used in the study.

Living Arrangements

The decision to go to college forces a student to make several choices regarding the totality of the experience prior to enrollment. A student must try to select a college that is congruent with his ambitions, academic aptitude, and socio-economic status and therefrom choose a living arrangement that may or may not be preferred. Internal and external factors may combine to dictate the student's choice of residence. Some students are unable to obtain on-campus housing due to late application, lack of adequate finance, housing shortage, or housing policies that restrict certain students from living on campus as well as those that require certain standards or classifications to live on campus. Some students may choose to live off-campus and commute while other students may choose to live on-campus. Campus living is not the preferred arrangement of all students who live on campus. Living on campus may be the result of

many circumstances over which they had no control. Their plight is similar to the plight of the students who unwillingly live off-campus. Regardless of the type of residence, the literature suggested that the variable, living arrangement, played an important role in a student's academic performance and the college's retention rate (Astin, 1973; Iffert, 1957; Newcomb, 1962).

Students attending colleges and universities have not always had to select residence types. Residence halls are not a product of the twentieth century. They reach back as far as the thirteenth century to universities in Bologna, Oxford, and Paris. The first attempt to develop group living came at Bologna where students organzied in-houses that were called soccii. Students at the University of Paris soon formed similar living arrangements in what they called paedagogies, and at Oxford, students grouped themselves in common living arrangements in what they referred to as halls and colleges. These houses were totally self-governed and the universities did not concern themselves with where the students lived until the mid-1400's.

European universities generally stressed scholarship, research, and instruction. When there was money available, the universities used it to

support research and instruction instead of constructing student residences. The Reformation, however, changed the fate of residential education in Europe. When the English colonized North America, they brought with them the traditions and concepts of the European collegiate residence system.

The residence hall system, as we know it today, has evolved from non-humanistic to humanistic. Education, in the past; in the minds of the administrators and professors, meant classroom instruction, research, and the pursuit of academic excellence. The personal growth and development of individual students as ladies and gentlemen were considered outside the responsibility of the universities (Blimling and Miltengurger, 1981, Chapter 12).

Student residences were simply that, residences; they generally had little or no connection with the institution's academic program until the early 1960's. Prior to that time, their major purpose, apart from simple housing, was supervision of student conduct. Acting <u>in loco parentis</u>, residence staff kept a close watch over the social activities of the students in their charge, particularly, the women students.

"During the late 1950's and early 1960's, many institutions increased their bed spaces by six to seven hundred percent. The emphasis on maximum number of beds and minimum construction cost per bed led to the construction of institutional living environments that bore little resemblance to academic communities. In fact, these environments had the unanticipated effect of increasing student feelings of impersonality and anonymity and contributing to attitudes of anti-intellectualism" (Riker, 1981, p. 673). The noise and confusion that characterized the halls plus the inadequate study space proved not conducive to learning. Facilities that included lounges, recreation rooms, and food services served a major purpose as activity centers, but the frequent contrast between their attractiveness as places to play and the unattractiveness of classrooms as places to learn contributed to an overemphasis on co-curricular interests for many students.

"Partly as a reaction against this role of residences as social activity centers, some college administrators, during the 1960's, began to conceive of residences as living-learning centers and to include in them classrooms, laboratories, and faculty offices" (Riker, 1981, p. 674).

Since then successful efforts have been made at many institutions to link classroom and residential learning. The planned utilization of the residential experience represents a break from the American tradition and an increase in the institution's holding power (Astin, 1975; Chickering, 1974).

Although there were many benefits to be derived from living on campus, many students for various reasons, had to forego them as they commuted to and from the campus.

Several studies have examined the impact of the college milieu. Alfert (1966) found that students living in boarding houses or private homes were more likely to drop out because they had fewer interpersonal ties with the college milieu. They felt like outsiders and had difficulty clarifying their self-concept. Alfert's findings were supported by (Astin, 1977; Pascarella and Terenzini, 1980). Tinto (1975) on the other hand, stated that residential learning can support academic learning directly by increasing students' readiness to learn and effectiveness at learning. Residential learning enabled students to focus their studies by helping them to clarify their personal and professional goals. It also provided an opportunity for like-

minded students to study together and continue discussions of classroom topics over the dining table and throughout the day and evening. It even encouraged students to stay in college, as Astin (1975) and Chickering (1974) have shown. Using data from the Cooperative Institutional Research Project of the American Council on Education and the University of California at Los Angeles (CIRPACUCLA), Astin (1975) showed that living on campus as a freshman tended to decrease the chance of a student's dropping out by approximately 10 percent, compared with other living alternatives. Both Astin (1975) and Chickering (1974) have concluded that the values of residential living might well encourage colleges and universities to strengthen their residential program. Mood (1971) has gone so far as to advocate public support for one year's residence for each student enrolling in higher education, to assure personal and interpersonal development.

It is unlikely in the near future that the public will approve Mood's suggestion without questioning. Rather, they may look at the studies that have been done on residential and commuting students to determine whether there is a need for the extent and cost of such an involvement.

Although there is a paucity of attrition research done on commuting students, the research that has been done asserted that commuting students were particularly vulnerable to college attrition. Garni's (1974) study did not support that conclusion. In spite of the widespread pressures faced by colleges and universities today and the difficulties inherent in having to select qualified candidates from a diminishing pool of applicants, there does not appear to be a corresponding increase in attrition rates of commuting students. More importantly, this study pointed out that commuting students did not appear to be particularly vulnerable to academic attrition, nor was there any indication of a recent upsurge in commuting student attrition rate.

Commuting students, as a group, appeared to be less involved in campus life than residential students. Involvement led to social and academic integration which increased the undergraduate's chances of completing college, implementing career objectives, and being satisfied with the undergraduate experience (Astin, 1977,; Spady, 1971; Stikes, 1984; Tinto, 1975).

Commuting students faced several problems which prevented them from becoming involved in the life of

the college. Levin and Clowes (1982) found that students who lived at home and commuted to college were late more, were less likely to return for the sophomore year, were more conservative and less likely to discuss politics and religion. They also took fewer honors courses, read less assigned materials, and failed more. Students who lived in residence halls, on the other hand, were more likely to aim for higher degrees, to have higher self-ratings and self-confidence, higher academic performance, leadership, and more likely to succeed. Chickering (1974) saw the commuting students as the "have nots" while residents were the "haves." Tinto (1975) argued and Pascarella and Terenzini (1980) partially confirmed that those who voluntarily withdrew from college tended to be those who were isolated from college life and peers. Living in a college-owned residence, if Tinto is correct, would increase the probability of persistence and progress in college.

Levin and Clowes (1982) sought to clarify three questions drawn from the literature related to the impact of living environments on progress toward educational goals. The questions were:

1. Do students who live in residence halls have higher social status, higher high school

grades, and higher aptitude than students who live at home and commute to college?

2. Do residentail students have a higher graduation rate than commuting students?
3. Do we have any justification at this point for hypothesizing an independent and positive effect of residence living on attainment of educational goals?

The chi-square test for differences was used; the data generally supported Chickering's (1974) contention that students who lived in college-owned facilities were of higher socio-economic status and had higher high school grades. This finding, however, was not a clear confirmation. There was no significant relationship between aptitude and residence. This finding was inconsistent with Chickering (1974) on pre-matriculation differences between residential and commuting students. The weak relationship between socio-economic status and high school grades and the failure to find out expected relationship with aptitude raised interesting questions: For students entering four-year colleges directly after graduation from high school, are the traditional distinctions between the residents eroding? Does this reflect a more meritocratic posture on admission to four-year

colleges and on residence patterns? These questions were not answered; however, the findings of the study supported a general theory that four-year college students who lived in college-owned facilities would be more likely to integrate the social and academic aspects of the college and to persist and graduate than would students who lived outside the college environment.

College and university administrators have to do some planning in order to maximize residential and commuting students' educational experiences. They will have to initiate change proactively rather than just reacting traditionally to declining enrollments and shrinking dollars. "The full potentials of students will not be developed until the emotional and physical aspects of their growth are given as much attention as the cognitive dimension" (Miller and Prince, 1976, p. 2). It is not enough for teachers to teach and administrators to plan the instructional programs, students must interact with their peers, faculty, and administrators on a regular basis in academic and social activities.

Pascarella and Terenzini (1979) conducted a longitudinal study using a random sample of 1,905 freshmen drawn by the computer from the total

population of incoming freshmen from a large private, residential university. The study sought to investigate the influence of undergraduate residence setting on freshman year educational outcomes such as academic achievement, institutional persistence, and measures of intellectual and personal growth. With the influence of fiteen pre-enrollment characteristics held constant, residence in an experimental living center was found to be positively and significantly associated with freshman year persistence, measures of intellectual and personal growth, and a sense of intellectual community. The results further suggested that the structural and organizational influence of residence arrangement was accounted for, or mediated by, the quality of interpersonal interactions with peers and faculty who were important socialization agents.

Planned interaction should occur at all levels of college life in order to provide situations that bring people together. Situations that throw people together in a university provide little shared intellectual experience which quite naturally leads the students to seek ways of interacting that are not necessarily congruent with the purpose of the university. Brown (1972) suggested that new ways of grouping students in the curriculum, in the

residential arrangement, and in scheduling, should be found so that large number of students will have some common shared life which will serve as a foundation for intellectual and social interactions.

Taylor and Hanson (1971) conducted a study that compared and contrasted homogeneous and heterogeneous groups assigned to a residence hall. Students majoring in engineering were assigned throughout the hall. The results of this study indicated that cumulative achievement was significantly better for engineering students living in a homogeneous residence hall situation when compared with randomly assigned non-residence hall engineering freshmen. This suggested that the influence of peers with common interest and common causes had a strong and positive influence on achievement.

DeCoster (1966) found that random assignment in a residence hall could place a student in a living situation that was not only uncomfortable but actually a hindrance to satisfactory academic achievement. One of the findings of his study was that high ability students seemed to improve their academic achievement when they lived in close proximity of one another and that high ability students negatively affected the academic success of

other students in the same residence unit.

DeCoster (1968), in a related study, reported that high ability students living together were more successful academically than randomly placed high ability students; however, Beal (1968) studied the effects of mixed-class housing on students' grades and found the results to be negligible. He concluded that there were benefits to be derived from mixed-class living.

Campbell and Bassett (1973) argued that residence halls must meet the needs of the students in order to retain them. This included providing an opportunity for the residents to develop socially through interactions with others. Studies showed that residence halls have the greatest impact on the freshman year. Many upperclassmen move out of the halls seeking greater independence and a quieter place to study.

Weislogel (1977) examined the impact of various types of living accommodations on the academic performance of college feshmen at West Chester State College and found that students living in single-sex dormitories achieved higher grade point averages than predicted, while those in coed dormitories and commuters had grade point averages below those predicted.

Pascarella and Terenzini (1980) investigated the influence of the undergraduate residence and found residence on campus to be positively and significantly associated with freshman year persistence. This persistence was heavily influenced by the interaction and stimulation of the residential environment. Commuters interacted less and as a result had higher attrition rates and poorer grades.

Moos and Lee (1979) compared the social environment of residence hall and independent off-campus living settings (such as apartments and houses). This was a longitudinal study in which students were assessed during their freshman and senior years using the University Residence Environment Scales (URES).

A series of commonality analyses were conducted to estimate the portion of predictable variance in senior year status on student characteristics that was unique to personal variables, unique to environmental variables, and shared by personal and environmental variables. Multiple regression analyses were carried out in which the personal variables were student sex and freshman year scores on each of the student characteristics and the environmental variables were the social environment

of the student's freshman year living setting, and the type and social environment of the student's senior year setting. They found that off-campus living settings had as much emphasis on cohesion and emotional support as residence halls, and had more emphasis on freedom and independence, and on the enhancement of intellectual and cultural pursuits. These findings were consistent with the arguments of those who criticized residence halls, in that they indicated that students who stay in halls were not exposed to as wide a range of environmental stimulation in their living setting as those who moved off campus (Chappell, 1984; Moos and Lee, 1979).

In summary, unlike past students, today's college students have to choose a living arrangement which has a direct impact on persistence and academic performance. The review compared and contrasted the effects of different settings and examined resulting educational outcomes.

The findings revealed that first-year students profited more from the college experience if housed on campus in homogeneous groups in halls that have programs designed to provide planned interaction with peers and faculty.

All students benefitted from interacting with

peers and faculty who were socializing agents. Involvement, regardless of the type of residence, was necessary if students were to be socially and academically integrated into the life of the college. This integration tended to prevent students from dropping out.

The overall findings in the review suggested statistically reliable associations between living arrangement and the variables used in the study (academic performance and retention rates).

It also showed that many colleges and universities were beginning to link out of class learning with classroom learning in order to facilitate students' development and retention. Additionally, the review provided insight into the impact that various residential types had on students and what students profited most from a particular residential type. This information can be used to match students with on-campus and off-campus living styles that will maximize their potential and result in larger numbers of students remaining in college until the completion of the baccalaureate degree. The interrelationship of the variables used in the study was shown.

ACADEMIC PERFORMANCE

Many institutions have become deeply engrossed

in the movement toward egalitarianism. The effect has been a proliferation of a wide variation in the academic backgrounds of newly admitted students. Just as the College Entrance Examination Board (CEEB) noted the declining of scores on the Scholastic Aptitude Test (SAT), many institutions found that a large number of newly admitted students did not have the background necessary to insure reasonable success in higher education.

Research showed that the freshman year was critical. Attrition among freshmen was high and adaptive measures must be initiated to assist. "New students now entering our colleges have had consistent difficulty in performing traditional academic tasks throughout their academic experience" according to Cross, (1976), p. 30.

Weissberg, Berentsen, Cote, Carvey, and Heath (1982) conducted a study to assess the academic, career, and personal needs of undergraduate students at the University of Georgia. A significant finding was that a majority of the students needed to improve their basic skills in reading, writing, and mathematics and to learn how to study effectively.

This finding was consistent with a recent trend that found school systems and colleges

throughout the country placing an increasing emphasis on developing and evaluating competencies in the basic academic skills.

Carney and Gels (1981) conducted a study to determine whether data that were immediately available to the University of Oklahoma could be used to identify students who lacked the necessary reading skills for college work upon admission and to determine which factors were related to academic performance and retention.

The sample consisted of 490 students who were first semester freshmen at the University of Oklahoma during the 1976-1977 fall semester. The purposeful non-random sampling procedure was used to select 28 day and evening freshman English classes in the sample, which represented 19% of the 2,551 entering freshmen for that year.

All new freshmen completed the New Student Survey, an instrument designed to obtain data related to the students' backgrounds, interests, needs, and attitudes. The Nelson Denny Reading Test, Form C was administered. This test provided measures of reading, vocabulary and comprehension. American College Test (ACT) scores were available for 468 of the sample.

Multiple regression analyses were performed to

determine the significance of selected variables for predicting retention as measured by the fifth semester enrollment and for predicting college academic performance.

The results supported the use of the ACT scores and self-assessed data for an alternative approach to initially identify students who, upon admission, lacked reading skills. Academic performance and retention were both shown to be related to entrance tests and reading test scores.

The climate at an institution played an important role in the student's experience. How this climate was perceived affected achievement.

Organ (1982) investigated the relationship between the student's perception of the education environment of selected schools and the level of student achievement. Organ found that the student's perception of school climate was significantly related to achievement.

Centra and Rock (1971) studied 27 colleges with enrollments under 1500 to investigate selected features of the college enrironment presumed to be related to students achieving significantly more or less than one would predict from their aptitude at entrance. They found that college environmental features were related to student achievement.

Students learned more than might be expected if they felt that instructors were accessible, interested in teaching, and interested in them as individuals. Some of the features appeared to be ones over which colleges had control, such as -

Faculty/Student Interaction

Cultural Facilities

Curriculum Flexibility

Administrators who understand how and to what extent college characteristics influence student behavior can use such information for discussion concerning the optimum allocation of limited funds among competing educational programs.

Colleges that want to improve students' chances of academic success can profit from the growing body of research that shows how environmental resources can be used to offset students' pre-college input.

Characteristics that can affect achievements positively or negatively according to Centra and Rock (1971) were:

Library Books Per Student

Number of Books in the Library

College Income Per Student

Faculty Per Student

Expenditure Per Student

Proportion of Faculty with Doctorates

Full-time Equivalent

Munday (1970) investigated three factors that may influence the predictability of grades at higher educational institutions. They were: institutional characteristics, student characteristics, and evaluation procedures. Some of the institutional characteristics that influence grade predictability were:

Source of Control
Size
Geographic Location
Level of Instruction
Proportion of Housed Students
Proportion of Faculty with Doctorates
Curricula Types

Some of the student characteristics that influenced grade predictability were:

Academic Ability
Percentage of Students with a Vocational Choice
Level of Educational Aspiration
Family Income
College Housing Arrangements
Out-of-Class Accomplishments

Eight variables were found to account for 42% of the variance and four of the variables accounted for 35% of the variance of predictability: a) range of talent b) percent of students living under college supervision c) size of the freshman class, and d) ability level of freshman student body.

It is important that evaluation procedures be used to determine what changes need to be made. Munday's study suggested that not only was predictability systematic, but also the characteristics of the samples were related to the magnitude of predictable correlations. He also pointed out that colleges with high predictability tended to be private church-related institutions with small enrollments and many students living on campus. In contrast, colleges with low predictability tended to be commuting-controlled junior colleges with few students living in college housing.

Attending a community college substantially reduced the student's chances of completing a bachelor's degree (Astin, 1971; 1975). Institutional size can negatively impact retention. For example, students attending small institutions were much more likely to interact with faculty, to get involved in campus government, to participate in

athletics, to become involved in honor programs, and to be verbally assertive in the classroom. Large institutions have a greater variety of organizations and co-curricular activities, but the probability that any given student will get involved in such activities was reduced (Astin, 1975).

Astin (1975) found that undergraduate students who worked less than 20 hours per week on campus, increased their chance of finishing their degree program. Another effective way for students to reduce their chances of dropping out was to get away from home and live on campus in a dormitory. The positive effect of dormitory living occurred in all types of institutions and applied to all types of students.

The absence of residential facilities was one of the main reasons for the relatively high attrition rates of students who attend community colleges. Additionally, students who joined social fraternities or sororities were less likely to drop out as were students who participated in co-curricula activities.

The greater the students' involvement in the academic experience, the greater the chances that the student will remain in college and complete a degree program (Astin, 1974; Chickering, 1975).

There were opposing views relative to the effects of living accommodations on academic performance and retention. Viche (1975) conducted a study of the effect of living arrangement on academic performance and found that freshmen in some halls performed better than freshmen in other halls. Freshmen on campus, as a group, performed better than freshmen off campus, as a group. His findings supported Astin (1973); Hountras and Brandt (1970) and were consistent with reports that academic performance was more favorable for residents than commuters.

Mussano (1977) examined the effect of on-campus living upon scholastic achievement, dropout rate, and the number of students placed on academic probation at York College of Pennsylvania. He found no significant difference in the mean academic performance, attrition, and probation rates of on-campus and off-campus residents.

York College had required all freshmen to live on campus. As a result of this study, the housing policy was changed to allow freshmen a choice in living accommodations.

Grosz & Brandt (1969) conducted a study at the University of North Dakota to determine the effect of student residence on academic performance. Prior

research had been conducted, but the results were inconclusive and inconsistent.

Using a three-matched group sample and an analysis of variance, the differences were determined at the .05 level. The results indicated that freshman residence was apparently of little significance in the outcome of first and second semester grade point averages for the three-matched groups in the study.

This study supported other studies that concluded that entering freshmen tend to achieve equally well regardless of residence and that academic ability is of greater importance than student residence (Munday, 1970; Mussano, 1977).

College and universities have the task of developing environmental situations that enhance a student's academic potential to its fullest. The research showed that residential colleges had the opportunity to influence student achievement directly through the residence halls (Taylor and Hanson, 1971). However, while evaluating the effectiveness of the residence hall in facilitating academic achievement, one cannot lose sight of the fact that half of the students who attend colleges and universities are commuters.

Although the prime objective of any college is

the transmittal of knowledge, the assurance that the total environment is conducive for learning must be prioritized. The institution is first and foremost concerned with its curriculum, teaching faculty, library, study facilities, and incentive for faculty and students to add to their knowledge through research and publication.

To ensure that its prime objective is carried out, educators must plan shared intellectual experiences that facilitate interactions that are congruent with the purpose of the college or university. Brown (1972) argued that grouping students in the curriculum, in the residential arrangement, and in scheduling would enable large numbers of students to have some common shared life which will serve as a foundation for intellectual and social interactions.

The collegiate environment must provide surroundings which tend to promote academic achievement, good scholarship, and maximum intellectual stimulation. Residence halls and co-curricular activities must be an integral part of the collegiate community. Stoner and Yokie (1969) contended that the residence hall system should serve as an adjunct and supplement to the total educational process of students by providing the

proper scholastic environment.

Students living on campus have greater access to the faculty. Frequent informal contact can be made in the college dining halls or chance meetings in residence halls where faculty work.

Iverson, Pascarella and Terenzini (1984) investigated the extent to which informal contact socialized students by influencing their education aspiration levels in a commuting setting. They found that social contacts which involved students affected the students as a whole person, produced greater effects on outcome variables than more routine, bureaucratic, or perfunctory contacts for academic purposes. The recursive model used suggested that the frequency of informal faculty/student contact focusing on academic topics had a significant positive influence on the post-freshman year educational aspiration of students even when pre-enrollment characteristics and other college experiences were taken into account. The associations in the model suggested that students with higher initial aspirations experience higher levels of contact with the faculty.

Little is known of the effects of informal contact on commuting students. Brown and Richeck, 1968; Chickering, 1974; and Pascarella, Duby, Miller

and Rasher, 1981) discussed the salient differences between commuter and residential students, which included the lesser degree of involvement in co-curricular activities by commuters. The distribution of contact reinforced the claim that academically-oriented contact was the most common type among commuters (Iverson et al. 1981).

Endo and Harpel's (1981) study of residential students found social contact to be more influential on student outcome than was academic contact.

Munday (1970) found that grades at colleges where students lived in college-controlled residences were more predictable than grades at colleges with commuting students.

Since many students are admitted who require additional academic assistance, support programs can be designed to aid students (McDougal, 1981; Organ, 1982; Weissberg et al. 1982).

Belfon (1982) conducted a longitudinal study of 534 randomly selected full-time undergraduates. The control group was composed of regular admitted students while the experimental group was composed of students enrolled in academic-support programs. The program provided remedial instruction in the basic skills, tutorial assistance, and counseling.

The college grade point average was used as a measurement of achievement. Routine college entrance and placement tests were measures of pre-college ability. An analysis of co-variance was used to evaluate differences among GPA's of program versus non-program students relative to pre-college ability across the four years. A t-test was used to evaluate differences between the two groups.

The findings showed that students who entered college with academic deficiencies and who participated in an academic-support-program for one year withdrew from college at a rate significantly higher than their regularly admitted counterparts.

In general, in the academic-support-programs students' grade point averages increased with each succeeding year of college attendance. Also in programs where academic performance was monitored and tutorial and counseling services were provided for two years, students earned grades equivalent to those of their non-program counterparts. Thus, the provision of support service for a two-year period appeared to be a significant factor in helping students compensate for academic deficiencies, stay in college, and received grades comparable to non-program students.

In spite of the support services provided to

maximize students' academic development, some students withdrew. This withdrawal was due to academic factors.

Troyer (1984) conducted a study on academic factors which related to the withdrawal of students in a community college health occupation course. She found a difference in the academic profile between voluntary or student-initiated withdrawal and academic- or instructor-initiated withdrawals and students who completed the course successfully.

The result of the research indicated that there were statistically significant differences between voluntary withdrawals and persisters. Academic progress was a significant factor in differentiating voluntary withdrawals. Academic skills differentiated between persisters and withdrawals. Persisters can be differentiated primarily on the basis of course average, academic progress, enrollment patterns, previous college work, and reading levels.

Donovan (1984) conducted a study to examine the persistence/withdrawal process in higher education among black youth from low-income families. She used the theoretical framework of Spady (1971) and Tinto (1975) to understand persistence in higher education. Persistence was seen as integration into

the social system of the college; withdrawal was seen as the individual's failure to integrate into the college's social system. The sample consisted of 403 low-income youth who entered 69 colleges and universities as freshmen in the Fall of 1979.

By the Fall of 1981 (junior year), 64% of the cohorts were still enrolled in college, while 36% had abandoned the pursuit of higher education.

Tinto (1975) argued that given individual characteristics, prior experiences, and commitment, it was the individual's integration into the academic and social systems of the college that most directly related to continuance in the college. This argument supported Donovan's findings.

Donovan also found that academic integration led to better grades, which in turn led to persistence. Since college experiences were more important than background characteristics, persistence among low-income youth could be improved through program intervention.

Terenzini and Pascarella (1979) supported the theory that social and academic integration promoted persistence. In their investigation of the multidimensional differences in freshman perceptions and experiences of the academic and non-academic aspects of college associated with varying amounts

of informal contact with faculty, they found that the amount of informal contact with faculty was found to be significantly associated with persistence.

In summary, higher education, in the past was characterized by elitism. Today, many institutions have become deeply engrossed in the movement toward egalitarianism which resulted in the lowering of admission criteria and produced a need for remedial programs that were designed to help students overcome academic deficiencies.

Most institutions have institutional data already available (such as the SAT, ACT, and placement results) to assist in identifying students who, upon admission, lacked basic academic skills. Academic performance and retention were found to be related to entrance and reading tests scores.

Climates that were perceived to be academic promoted academic achievement. Certain factors in the environment promoted student achievement such as teacher expectation, accessibility, interest, faculty/student interaction, curriculum flexibility and cultural facility. There were also institutional and student characteristics that influenced grade predictability (such as the volume of library books, college expenditure per student,

proportion of faculty with doctorates; academic ability, percentage of students with a vocational choice and the level of educational inspiration.

Administrators who understood how and to what extent college characteristics influenced student behavior used such information to allocate funds among competing programs that improved the students' chances for academic success.

Students who had informal contacts with the faculty became socially and academically integrated into the college's social system and this integration promoted persistence and academic performance.

Studies on the effects of living accommodations on academic performance have been inconsistent; however, several studies showed that residential and commuting students differed in their rate of persistence and academic performance.

The academic profile of students who persisted differed from those who withdrew voluntarily and from those who withdrew involuntarily. The prime objective of colleges and universities is the transmission of knowledge; however, administrators have an obligation to create an atmosphere that is conducive to learning.

This section examined the relationship of academic performance to living arrangement and described academic factors that related to retention. Academic success appeared to be one of the most powerful influences in student persistence rates.

RETENTION

The future vitality of American higher education depends on the ability of the institution to retain new students. In past decades, attrition was assumed to be a natural corollary of freshman enrollment. Declining enrollments, cutbacks and shrinking funds have caused administrators to examine that assumption empirically and to employ strategies to retain students.

The literature review revealed that there were differences between dropouts and persisters (Astin, 1975; Pascarella and Terenzini, 1980). The differences determined who will go and who will stay. These results will be of interest to administrators who must manipulate environmental factors in order to optimize opportunities for the student body which, at most colleges, consists of residential and commuting students.

Pascarella and Terenzini (1980) investigated the influence of undergraduate residence on college

persistence. They found residence on campus positively and significantly associated with freshman year persistence.

Research on differences between commuting and residential students suggested that commuting students were particularly vulnerable to college attrition because they were confronted with problems which militated against successful college adjustment.

Both residential and commuting students have needs that must be met. Unmet needs resulted in attrition regardless of the place of residence.

Campbell and Bassett (1973) argued that residence halls must provide an opportunity for students to develop socially through interactions with others. They must also be perceived as places that facilitate and support students' academic experiences; otherwise many students will move off-campus to acquire better study conditions.

While every effort must be made to create a scholarly environment in the residence halls, administrators must not lose sight of the fact that half of the student body commutes; therefore, the total curriculum must be set up for shared experiences that provide a social and intellectual

foundation for all students.

Planned formal and informal interactions with the faculty, peers, staff, and administrators greatly aided the creation of an environment that was conducive to learning for the total student body.

Chickering (1974); Feldman and Newcomb (1969) conducted studies that suggested that the extent and quality of interactions with the faculty and peers were positively associated with a student's intellectual and personal development during college. Commuting students tended to interact less than residential students in the collegiate environment; therefore, ways must be found to get them more involved in the life of the college.

A theoretical framework which stated that students who were socially and academically involved in the college persisted has been suggested by several researchers (Rootman, 1972; Spady, 1971; Tinto, 1975). The implication of this theory was that educators must initiate this involvement through program planning and implementation.

Noel (1982) argued that students who were provided a lively, exciting, and substantive learning and growth experience continued their enrollment at the colleges and universities in which they were enrolled. "Students need to get involved

with some significant group, or with some significant individual on the campus" (Noel, 1982, p. 2).

Some factors that make retention in the 1980's an imperative alternative to retrenchment were:

a) Decline in high school graduates

b) Decline in the college-going rate

c) Slight increase in the dropout rate

Data collected over the past four decades led to the conclusion that of the more than fifteen million students who will enter baccalaureate-granting institutions in the 1980's, 40% (5 to 6 million) will never earn college degrees.

Many of these students will leave college for reasons which are directly related to the quality of services offered to them (Cope, 1978; Noel, 1982; Summerskill, 1962).

Several factors focused attention on the dropout problem. The most salient factors for private colleges were: 1) Declining Enrollment - most private colleges derived their income largely from tuition and fees; therefore, each new student brought additional income and each student retained maintained this income and, 2) Waste of Limited Resources - continuous recruitment and attrition shrank resources that could be used to improve

services.

Administrators have traditionally seen recruitment as the principal means to keep enrollment up. An equally promising method is to reduce the dropout rate. In four-year institutions, any change that deter students from dropping out can affect three classes of students at once; whereas, any change in recruiting practices can affect only one class in a given year. From this point of view, investing resources to prevent dropping out can be more cost effective than applying the same resources to more vigorous recruitment. "Changes that help students complete college represent a real service to them; whereas, successful recruiting efforts may simply change students' choice of institutions" (Noel, 1982, p. 5).

The literature indicated a clear relationship between undergraduate grade point average and dropping out. The findings revealed that the academic programs of many undergraduate institutions failed to capture the interest of a substantial number of students, including some of the highest achievers (Noel, 1982, p. 2).

Astin (1971) pointed out that the academic average was the best predictor of college success. However, a study conducted by Shaffer (1981) found

biographical information that could also be used to predict drop-out-prone students. This information could be used to identify early potential dropouts and to provide for necessary support services.

Tierney (1983) conducted a study at Northeastern University to develop a comprehensive, multifaceted retention program for underachieving students. The model development program used data collected through an extensive review of the history of student underpreparedness. The review developed a chronology of the remedial/development education movement from its initial stages through current retention efforts. The findings resulted in a workbook/text that will be used during orientation in the campus-wide retention program as an intervention for all students who need such service.

Since most small colleges can not compete financially with larger institutions, it was imperative for them to maintain enrollment. Each drop-out from a small college represented a greater loss, since its livelihood depended more upon endowment and tuition.

One of the ways that colleges and universities may attempt to minimize attrition is through the use of peer counselors. McDougal (1981) investigated the effectiveness of peer counseling versus faculty

counseling. Eight upperclassmen and eight faculty members were selected and prepared as counselors Both groups were assigned approximately five freshman general studies majors for the purpose of facilitating social, personal and academic adjustment to the college environment. Each counselor was encouraged to know each student in the group, promote good study habits, hold individual and group sessions for fun and problem-solving, and encourage participation in school activities; promote interactions with peers.

At the end of the semester, the two groups were compared to determine if there were a significant difference in their attitudes toward college, grade point averages, activity involvements as well as attrition rate. An analysis of the data showed no significant difference in attitudes toward college between the two groups. There was a significant difference in the grade point average of the peer-counseled group. There was no significant difference in the attrition rate. Both groups were extremely low with a loss of three percent each.

The results of this study indicated that peer counselors can make a significant difference in the grades of freshmen as well as membership in co-curricular organizations.

Fuller (1983) implemented a freshman counseling program consisting of academic, career, and personal counseling, separate from departmental advising, in an effort to improve retention. His findings revealed that academic performance was improved and attrition reduced.

The literature supported orientation and counseling as effective intervention strategies for improving retention. It also showed a relationship between academic achievement and retention.

Noel (1982) studied the retention phenomenon through his work at the American College Testing Programs. He reported that the cornerstones of retention were good teaching and academic advisement. "The first class sessions in freshman courses must be recognized as the most important class sessions that students will encounter during their college days. A conscious effort must be made to really reach students: To identify the importance of the course, to show how it links them and their future, to identify how it is going to have value and merit to them later and, to let them know how it can be used. Students must sense that they are learning, that they are growing, that they are building skills and they are getting ready for the future, otherwise, they will drop out" (Noel, 1982,

p. 5).

While working for American College Testing Programs, Noel (1982) surveyed colleges that used this service to determine the scope of their retention programs. He found that most colleges had no organized retention program; that the registrar or the institutional researcher or someone in Student Affairs or Academic Affairs or a teacher who headed a retention program to be the most informed person on campus regarding retention. He also found that most retention programs were carried out by Student Services, but the research showed that the key persons on campus in the retention efforts were those on the academic side of the institutions: Classroom teachers and academic administrators.

Student retention is a campus-wide issue, a campus-wide concern and a campus-wide responsibility. Administrators must recognize the importance of the faculty and look for ways to reward outstanding teachers. Teachers were the key, particularly on commuter campuses where 90% to 98% of the contact with students came in the classrooms.

"Today's students are consumers who weigh the cost/benefit measures. If they feel that the cost outweighs the benefits they leave. Faculty need to

take the time to identify, rather specifically, what they have to offer the students in classes and how this information is going to be useful in the future (this practicality is applied to general education courses as well as the more vocationally-oriented types of courses). Benefits should be divided into two parts: economic and non-economic benefits. Quality of life skills are benefits that should be articulated better to counter the myth that going to `college means more money'. It is very difficult to identify, specifically, the factor that makes the difference in whether a student stays or leaves. It is a complex process and the factors are entangled" (Noel, 1982, p. 8).

Certain operative variables provided an understanding of the withdrawal/persistence phenomenon. Astin (1975), in his longitudinal study, clearly found that students who were uncertain or unclear about their educational majors were dropout prone. Grites (1981) supported this finding. "College students need to be encouraged to explore the wealth of opportunities available to them and encouraged to select a variety of courses and instructors, and other intellectual activities that will enhance their abilities to make informed choices before selecting a major. Because pressure

was put on students to decide on a major, many left feeling that they have been pushed out. Career planning is a valuable service that should be aided by informal contact, both inside and outside the classroom" (Grites, 1981, p. 45).

Students who were isolated tended to drop out of the new environment. Astin (1975); Pantages & Creedon (1978); Pascarella and Terenzini (1979) cited studies that showed positive interactions between students and faculty facilitated the development of positive attitudes toward learning that converted to not only a positive attitude toward the college but also aided the adjustment of some students who felt isolated.

"Students who were bored tended to drop out especially when they perceived the college curriculum to be no different from their high school curriculum. They felt unchallenged" (Noel, 1982, p. 7). First generation college students who did not have informed expectation tended to drop out unless there was a strong support system in place at the college (Donovan, 1984, p. 256).

Astin (1975), in Preventing Students From Dropping Out, underscored the importance of the advisement process and the relationship between faculty and students in the retention process. The

academic advisor was key in promoting educational goals and challenging students to achieve, at the highest level, skills that were consistent with their abilities.

"The best approach to student retention was a concentrated effort to improve services which increase the student's desire to remain enrolled. More specifically, the focus of a retention program should be on those services which enable students to clarify their educational goals and to relate those goals to the academic offerings on the campuses" (Noel, 1982, p. 9).

According to Habley (1981), a student was more likely to remain enrolled if the student experienced:

1) An academic program which was consistent with the student's educational goals;
2) An academic program which the student perceived as relevant to those educational goals;
3) A learning environment which provided intellectual stimulation;
4) Persons, policies, and procedures which reflected a high degree of concern for the student's growth and development; and
5) Consonance between the student's

expectations for achievement and the student's actual achievement.

A caring attitude on the part of the faculty, staff, and high quality teaching were factors that were consistently identified with persistence and linked to retention.

Astin (1975) and Chapple (1984) argued that student retention can be influenced by a wide range of institutional practices such as:

1) recruitment and admission policies
2) residence requirements
3) allocation of financial aid
4) selection and assignment of students to the residence halls
5) availability of jobs on campus
6) grading practices
7) granting leaves of absence to the faculty
8) transfer policies
9) reward system for teaching excellence
10) structured co-curricular activities

If administrators want to increase the probability that entrants will graduate, they must select those actions associated with persistence and avoid those associated with dropping out.

In summary, attrition, in the past, was assumed

to be a natural corollary of freshmen enrollment. This assumption was studied empirically and the findings revealed that there were characteristic differences in dropouts and persisters. These characteristics can be identified early enough to employ intervention strategies to reduce attrition.

Private colleges can not afford to continuously recruit and lose students; therefore, specific plans need to be made to study the problems and devise retention strategies. Out of the research on withdrawal/persistence, a theory emerged that predicted that students who were involved academically and socially in the social system of the college tended to persist.

This involvement has to be initiated through planning and progrommatic strategies. Strategies that were notable in the literature were: good teaching, residence halls with living and learning centers, organized academic advisement and counseling programs, and activities that provided formal and informal interactions with faculty and peers.

Students weighed cost and benefits - if dissatisfied they left - this had a rippling effect that negatively impacted the image of the college. With fewer students, declining enrollments and less

financial resoruces, institutions have begun to employ strategies to retain students. Included in the strategies should be a reward system for teachers who care and perform qualitatively because academic performance was closely linked to retention.

The section showed the relationship between the variables in the study. Where a student lived affected his academic performance which was a strong correlation to retention.

Summary of Related Literature

Attrition from colleges and universities has always been high. Studies conducted over more than 60 years verified this fact and indicated that it was once thought to be a natural corollary of enrollment. In the past, attrition could be off-set by increased admission, but, today, increased cost and declining enrollments make retention programs necessary for the survival of institutions of higher education.

Early research was descriptive and atheoretical, but recent research has been guided by theory and has made use of longitudinal research methodology. Reasons most commonly given for dropping-out were identified and warning given

suggesting that these reasons be regarded with skepticism. Factors associated with withdrawals were provided along with factors associated with persistence.

One of the factors associated with persistence was living on campus in halls that housed students homogeneously and provided planned interaction with peers and faculty. All students benefitted from interaction with peers and faculty. The theoretical framework guiding this study predicted that involvement would be very important in integrating students academically and socially into the life of the college.

The overall findings suggested statistically reliable association between living arrangement, academic performance and retention. It also revealed that many colleges have begun to link out-of-class learning with classroom learning in order to facilitate student development and retention.

The literature review identified differences between dropouts and persisters. The differences determined who went and who stayed. Answers were provided for higher education adminisitrators who wanted to know who dropped out and why. Administrators who understood the extent of the problem and the reasons were in a better position to

manipulate environmental factors and to optimize opportunities for the entire student body.

The literature review showed that residence on campus was positively and significantly associated with freshman year persistence and that students who lived off-campus were particularly vulnerable to college attrition.

This knowledge provided the information needed to plan strategies to meet the needs of both groups through an organized and integrated curriculum where teachers interact informally with students, demonstrate caring attitudes, are accessible for advisement, and pursue excellence in the classroom. Improved services which increased the students' desire to remain enrolled were the key to retention.

Theoretical Framework

Living arrangement has a substantial effect on the academic performance and the retention rate of college students. The entire student body cannot, at most colleges, be housed on campus. Some students found it more economical to live off-campus and commute. For other students, the main attraction was a chance to live on-campus and test their independence and parietal rule.

Students who lived on-campus were more likely

to perform better academically and to persist until graduation. Commuting students' academic performace was more likely to be lower than residential students and the dropout rate was more likely to be higher (Astin, 1975, p. 107).

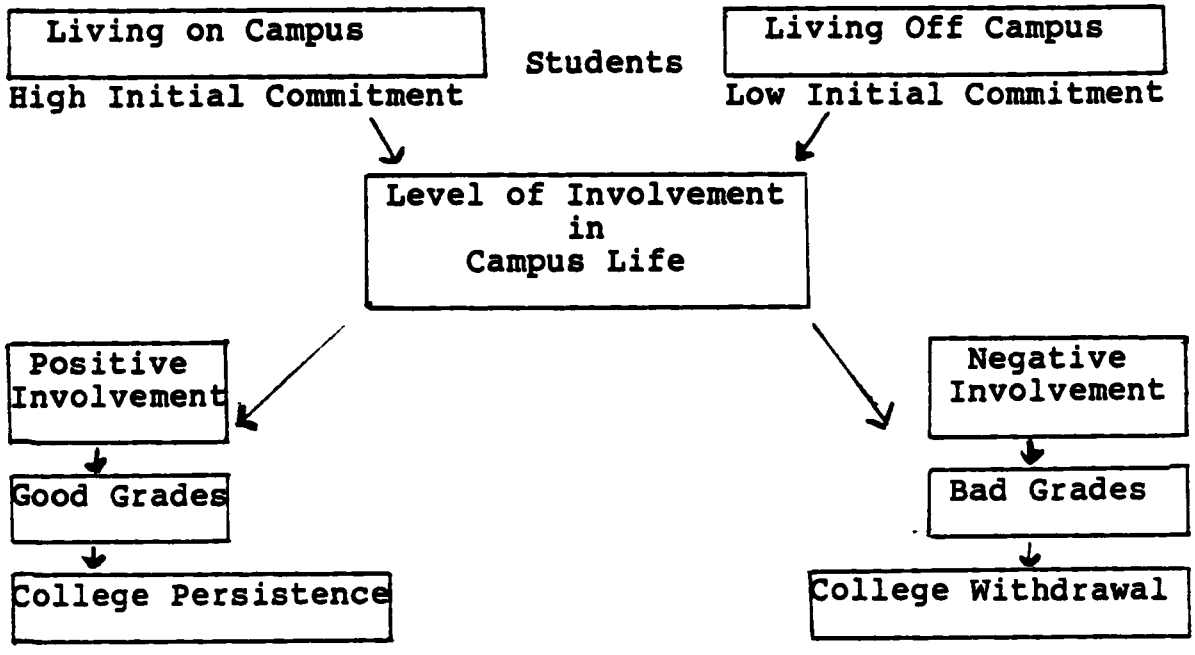
Recent research between commuting and residential students suggested that commuting students were particularly vulnerable to college attrition because they were confronted with a number of problems which militated against successful college adjustment (Garni, 1979, p. 240). Successful adjustment to college depended on commitment and integration into the social and academic dimensions of education environments (Donovan, 1984; Spady, 1970; 1971; Tinto, 1975).

Commuting students encountered all sorts of problems that may have prevented them from getting involved in the life of the college. Involvement was a very strong indicator of persistence (Tinto, 1975). Lack of involvement resulted in the students' withdrawal from college.

Tinto (1975), using Durkheim's theory of suicide, viewed the college as a social system with its own values and social strucure. Drop-out from this social system was analogous to that of suicide in the wider society. Students whose interactions

were insufficient and whose values were incongruent with the prevailing value patterns of the college, collectively, withdrew from the college. Presumably, lack of integration into the social system of the college led to low commitment to the social system of the college and increased the probability that individuals would decide to leave college and pursue alternate activities.

Interaction Model



Note. Students come to a particular institution with a wide range of background traits (e.g., race, economics, high school experiences, academic aptitude, family background). These attributes lead to initial commitment to the institution and to the goal of graduation.

The model on the preceding page indicated that living on campus produce high initial commitment that leads to positive involvement; positive involvement leads to good grades which lead to persistence in college. Inversely, living off-campus produces low initial commitment that leads to negative involvement; negative involvement leads to bad grades which leads to withdrawal from college.

Hypotheses

The following hypotheses will be tested in the study:

1. H_0 : There will be no statistically significant differences in the mean academic performance of students who lived on-campus and students who lived off-campus.
2. H_0 : There will be no difference in the retention rate of students who lived on-campus and students who lived off-campus.
3. H_0 : There will be no statistically significant difference in the level of participation in co-curricular activites of students who lived on-campus and students who lived off-campus.

CHAPTER III

METHODOLOGY

This chapter provides a description of the setting and the subjects used in the study and sets forth the data gathering procedures.

Description of the Setting

This study was conducted at an historically, black undergraduate colleges in Atlanta, Georgia. The college is a four-year, liberal arts institution with an enrollment of more than 1850 students. Although co-educational, the make-up of the study body is predominately female.

Approximately 43% of the study body lives on-campus. The remaining students live off-campus and commute.

Description of the Subjects

The population used in this study consisted of 1310 students who entered college in the Fall of 1980 and 1981, respectively. This population was used to identify subjects whose living arrangements, whether on-campus or off-campus, had remained the

same over a four-year period. The sample was then randomly drawn from the population whose residential arrangements had remained the same over the four-year period specified in the study.

The sample consisted of 180 subjects: ninety (90) subjects who lived on-campus four continuous years; ninety (90) subjects who lived-off campus four continuous years. The sample represents the make-up of the student body.

Date Collection Procedure

Enrollment data from the Registrar's Office were used to identify the 180 subjects used in this study. The place of residence over the four-year period was used to categorize the subjects into two groups: Students who lived on-campus and students who lived off-campus. Grades made in high school could not be used to provide the initial match. Consequently, the Scholastic Aptitude Test (SAT) was used to match the groups.

Data from the Registrar's file were collected on academic performance of the subjects over the four-year period. Data from the continuous enrollment files were examined over the four-year period specified in the study to determine which subjects in the sample graduated and which subjects

in the sample did not. The results of this examination was used to determine the retention rate.

Data on the subjects' levels-of-participation in co-curricular activities were collected from the files and quantified using the following codes:

1. 0 - represented no participation
2. 1-2 activities per year represented low to moderate participation
3. 3-4 activities per year represented full participation

The collected data will be presented and analyzed in Chapter IV.

The confidentiality of the subjects was protected. Only the tabulated indicators of the subjects by residence are presented in the tables.

Conclusions are drawn and recommendations are made which might be beneficial to higher educational administrators who must allocate funds for programs that are designed to improve academic performance, increase student involvement and to reduce the attrition rates.

The conclusions and recommendations might also be useful to the Admission Officers who can use academic and biograhpical data to identify early

students with potential problems and to retain male recruits.

The conclusions and recommendations might also be useful to curriculum planners who must establish programs and activities to meet the needs of the student body.

CHAPTER IV

PRESENTATION OF THE DATA

The study was designed to determine the effects of living arrangement on the academic performance and retention rate of college students over a four-year period. Records in various offices on campus were examined to obtain data relative to academic performance, retention, and participation in co-curricular activities over a four-year period. A total of 180 subjects were selected for the study. The data obtained from the files on the subjects are reported in this chapter.

Data were collected from the enrollment files in the Registrar's Office on all freshmen who entered the college in 1980 and 1981, respectively. The place of residence over the four-year period was used to categorize the subjects into two groups: students who lived on-campus and students who lived off-campus. The data obtained from the files relative to residence and sex are reported in Table 1.

Table 1

Students in study by residence and sex

Residence	Males	Females	Total
On-campus	25	65	90
Off-campus	28	62	90
Total	53	127	180

Table I shows the number of students in study by residence and sex. Females outnumber the males. This characteristic reflects the make-up of the student body which is predominantly female.

The files were also used to obtain data that characterized the 180 subjects. The data revealed that 127 subjects were females and that 53 subjects were males.

Of the 127 female subjects, 65 or 37 percent lived on-campus. A total of 62 females or 34 percent lived off-campus. Twenty-five males or 14 percent lived on-campus, and 28 males or 15 percent lived off-campus. Ninety percent or 162 of the subjects were in the 21 or 22 age range. Of the 18 or 10 percent remaining: 7 subjects were 20 years old, 8 subjects were 23 years old and 1 subject was 24 years old. The scores on the SAT ranged from a low of 500 to a high of 970.

Because grades made in high school could not be used to provide the initial match, the Scholastic Aptitude Test (SAT) scores were used to match the groups. The data used to match the groups are reported in Table 2.

Table 2

Matched Groups Using the Scholastic Aptitude (SAT) Composite Scores

On-Campus	SAT Score	Sex	Age	Off-Campus	SAT Score	Sex	Age
1	500	F	21	1	500	F	21
2	500	F	20	2	500	F	21
3	540	F	22	3	540	F	21
4	550	F	21	4	550	M	23
5	550	F	22	5	550	M	21
6	550	F	22	6	550	F	22
7	550	F	21	7	550	F	21
8	550	F	21	8	550	F	22
9	550	F	21	9	550	F	22
10	560	F	21	10	560	F	21
11	570	M	22	11	570	M	22
12	570	F	21	12	570	F	22
13	580	F	21	13	580	F	22
14	580	F	22	14	580	F	21
15	580	F	23	15	580	F	21
16	590	M	23	16	590	M	21
17	590	M	22	17	590	F	22
18	590	F	22	18	590	F	22
19	590	F	22	19	590	M	22
20	600	F	22	20	600	F	22
21	600	F	21	21	600	F	22
22	600	M	22	22	600	F	22
23	610	F	22	23	610	F	22
24	610	F	22	24	610	M	21
25	610	F	22	25	610	F	22
26	610	F	22	26	610	M	21
27	610	F	22	27	610	M	21
28	610	F	22	28	610	F	22

Table 2 (Continued)

Matched Groups Using the Scholastic Aptitude Test (SAT) Composite Scores

On-Campus	SAT Score	Sex	Age	Off-Campus	SAT Score	Sex	Age
29	620	F	21	29	620	F	23
30	620	F	21	30	620	F	21
31	620	M	21	31	620	F	21
32	620	F	21	32	620	F	22
33	620	M	21	33	620	F	23
34	620	F	21	34	620	F	22
35	620	F	21	35	620	F	22
36	630	F	21	36	630	F	24
37	630	M	22	37	630	F	21
38	630	M	21	38	630	M	22
39	630	F	21	39	630	M	20
40	640	F	22	40	640	F	21
41	640	M	21	41	640	F	22
42	640	F	22	42	640	F	21
43	650	M	22	43	650	F	21
44	650	F	21	44	650	M	22
45	650	F	22	45	650	M	22
46	650	F	22	46	650	F	22
47	660	F	22	47	660	M	21
48	660	M	22	48	660	F	22
49	660	F	22	49	660	F	20
50	660	M	22	50	660	F	21
51	670	F	22	51	670	F	21
52	670	F	22	52	670	F	22
53	670	F	22	53	670	F	22
54	670	F	22	54	670	F	22
55	680	F	22	55	680	F	21
56	680	F	21	56	680	F	21
57	680	F	21	57	680	F	21
58	680	F	22	58	680	M	21
59	690	M	22	59	690	M	21
60	690	F	22	60	690	F	22
61	700	F	22	61	700	F	22
62	700	F	22	62	700	F	22
63	700	F	21	63	700	F	22
64	700	F	21	64	700	F	21
65	710	F	21	65	710	F	21
66	710	M	22	66	710	F	21
67	720	M	23	67	720	F	21
68	720	M	21	68	720	F	22

Table 2 (Continued)

Matched Groups Using the Scholastic Aptitude Test (SAT) Composite Scores

On-Campus	SAT Score	Sex	Age	Off-Campus	SAT Score	Sex	Age
69	730	F	22	69	730	F	21
70	730	F	22	70	730	F	21
71	740	F	22	71	740	F	22
72	740	F	21	72	740	M	22
73	740	F	22	73	740	F	22
74	740	F	22	74	740	M	21
75	750	M	21	75	750	M	21
76	750	M	21	76	750	M	22
77	760	F	21	77	760	M	22
78	770	F	21	78	770	M	23
79	770	F	20	79	770	F	21
80	770	M	21	80	770	F	21
81	780	F	20	81	780	M	23
82	790	M	22	82	790	F	21
83	790	F	23	83	790	M	22
84	790	M	20	84	790	M	22
85	800	F	22	85	800	M	23
86	830	F	23	86	830	M	21
87	850	F	20	87	850	F	21
88	880	M	21	88	880	M	22
89	890	M	21	89	890	F	21
90	970	M	21	90	970	M	21
N = 90				N = 90			

Table 2 shows SAT scores age and sex of the matched groups. Tables 3 and 4 will depict the background trait of academic aptitude as measured by the SAT.

Table 3

Mean Distribution of Scholastic Aptitude Test Scores and GPA's for On-Campus/Off-Campus Males

On-Campus	SAT Scores	GPA's	Off-Campus	SAT Scores	GPA's
1	550	1.642	1	550	2.334
2	570	3.295	2	550	2.405
3	590	2.369	3	570	2.905
4	590	2.661	4	590	2.173
5	600	2.500	5	590	2.008
6	620	2.571	6	610	2.098
7	620	1.541	7	610	3.290
8	630	2.176	8	610	2.083
9	630	3.108	9	630	3.109
10	640	2.806	10	630	3.109
11	650	2.237	11	650	1.866
12	660	2.540	12	650	3.150
13	660	2.348	13	660	2.067
14	690	3.625	14	680	2.047
15	710	2.947	15	690	2.908
16	720	3.383	16	740	3.058
16	720	3.383	16	740	3.058
17	720	3.157	17	740	2.754
18	750	2.807	17	740	2.754
19	750	3.143	19	750	2.835
20	770	1.815	20	760	2.211
21	790	1.398	21	770	3.289
22	790	1.857	22	780	2.828
23	880	2.023	23	790	1.527
24	890	2.274	24	790	3.325
25	970	3.706	25	800	2.277
			26	830	1.846
			27	880	3.039
			28	970	2.914
Mean	700	2.557		700	2.513

Table 4

Mean Distribution of Scholastic Aptitude Test Scores and Grade Point Averages for On-Campus/Off-Campus Females

On-Campus	SAT Scores	GPA's	Off-Campus	SAT Scores	GPA's
1	500	2.917	1	500	2.917
2	500	2.783	2	500	2.134
3	540	2.258	3	540	1.544
4	550	1.144	4	550	2.627
5	550	2.402	5	550	2.950
6	550	1.733	6	550	3.091
7	550	1.956	7	550	2.497
8	550	2.476	8	560	2.997
9	560	2.775	9	570	2.484
10	570	3.535	10	580	2.855
11	580	2.550	11	580	2.207
12	580	2.037	12	580	2.024
13	590	2.956	13	590	2.160
14	590	2.328	14	590	2.261
15	590	2.360	15	600	2.146
16	600	2.475	16	600	2.605
17	600	2.523	17	600	2.500
18	610	2.366	18	610	2.914
19	610	2.858	19	610	2.596
20	610	2.362	20	610	2.596
21	610	2.285	21	620	2.668
22	610	3.078	22	620	2.845
23	610	2.205	23	620	2.147
24	620	2.384	24	620	2.068
25	620	2.571	25	620	3.070
26	620	3.044	26	620	2.195
27	620	2.623	27	620	2.389
28	620	1.742	28	630	2.644
29	630	2.959	29	630	2.818
30	630	3.119	30	640	2.877
31	630	2.436	31	640	3.189
32	640	2.658	32	640	1.654
33	650	2.576	33	650	1.892
34	650	2.713	34	650	3.727
35	650	2.811	35	660	2.923
36	660	2.803	36	660	2.723
37	660	3.443	37	670	2.538
38	670	2.496	38	670	2.538
39	670	2.502	39	670	3.409

Table 4 (Continued)

Mean Distribution of Scholastic Aptitude Test Scores and Grade Point Average for On-Campus/Off Campus Females

On-Campus	SAT Scores	GPA	Off-Campus	SAT Scores	GPA
40	670	2.688	40	670	2.642
41	670	3.292	41	680	2.470
42	680	2.413	42	680	2.000
43	680	2.918	43	680	2.649
44	680	2.551	44	690	2.297
45	680	2.069	45	700	2.007
46	690	3.032	46	700	2.571
47	700	2.138	47	700	2.241
48	700	2.822	48	700	2.782
49	700	2.476	49	710	2.234
50	700	3.649	50	710	3.017
51	710	2.802	51	720	2.740
52	730	2.292	52	720	1.876
53	730	3.025	53	730	2.492
54	740	3.291	54	730	2.299
55	740	3.423	55	740	2.500
56	740	1.842	56	740	2.077
57	740	3.040	57	770	1.714
58	760	2.158	58	770	2.279
59	770	3.033	59	790	3.491
60	770	2.186	60	850	2.891
61	780	3.041	61	660	1.808
62	790	2.482	62	890	2.792
63	800	3.268			
64	830	3.661			
65	850	3.086			
Mean	650	2.645		650	2.521

Tables 3 and 4 show the mean distribution of SAT scores and grade point averages by sex. The data revealed no difference between the mean SAT scores for males and no difference between the mean SAT scores for females. However, the data show a difference between the mean SAT scores for males and females. The data revealed differences in the mean grade point averages between and within the sexes. The mean differences in grade point averages and SAT scores by sex will be shown in Table 5.

Table 5

Mean Distribution of Scholastic Aptitude Test Scores and Grade Point Averages

Residence	SAT Scores	Grade Point Averages
On-Campus Males	700	2.557
Off-Campus Males	700	2.513
On-Campus Females	650	2.645
Off-Campus Females	650	2.521
Difference	0	0.044

Table 6

Mean Difference of Scholastic Aptitude Test Scores and Grade Point Averages

Residence	SAT Scores	Grade Point Averages
On-Campus Females	650	2.645
Off-Campus Females	650	2.521
Difference	0	0.124

The data in Tables 5 and 6 show no difference between the mean SAT scores for males; no difference between the mean SAT scores for females; however, a difference of 50 points can be seen between the mean performance of males and females on the SAT. Slight differences can be seen on the mean academic performance of male and female students. The difference between the mean grade point average on-campus/off-campus males was .44; the difference between the mean grade point averages of on-campus and off-campus females was 0.124. The mean academic performance for on-campus students appeared to be slightly higher than the mean academic performance of off-campus students. Table 7 will show the mean age distribution of the subjects by residence.

Table 7

Mean Distribution of Subjects

Residence	Age
On-Campus Students	21.5
Off-Campus Students	21.6
Difference	.1

Table 7 shows a difference of .1 between the mean age distribution of on-campus and off-campus students. Table 8 will show the mean age distribution of male and female students by residence sites.

Table 8

Mean Age Distribution of Males and Females

Residence	Sex	Age
On-Campus	Male	21.0
On-Campus	Female	21.5
Off-Campus	Male	21.6
Off-Campus	Female	21.5

Table 8 provides a break down of the mean age distribution of male and female students by residence sites. There was no difference between the mean age of on-campus and off-campus females. However, there was a mean difference of .6 between males who lived on-campus and males who lived off-campus.

The first hypothesis stated that there will be no statistically significant difference in the academic performance of students who lived on-campus and students who lived off-campus. The data

obtained that show the mean difference between the academic performance of the two groups are set forth in Table 9.

Table 9

Mean Difference in Academic Performance of On-Campus/Off-Campus Students

Residence	Academic Performance
On-Campus	2.62
Off-Campus	2.52
Difference	.10

A t-test was used to test this hypothesis. The result revealed a difference of .10 which was not statistically significant at the .05 level of confidence.

According to the literature living on-campus does make a difference in the academic performance and retention rate of college students. The difference in this study, though not significant statistically, appeared to be weighted in favor of students who lived on-campus.

As noted previously, students bring to a particular institution certain attributes. What happens after arrival, according to Donovan (1984),

on campus may have a greater impact on performance and persistence than either the background characteristics or personal commitments to the institution and the desire to graduate.

The data support the assumption that students housed on-campus would perform better academically than students housed off-campus. It must be noted that the performance, though better, was not statistically significant.

The second hypothesis stated that there will be no difference in the retention rate of students who lived on-campus and students who lived off-campus. Percentages were used to determine the difference in the retention rate of students who lived on-campus and students who lived off-campus. Table 10 will show the number of recruited students who paid application fees in 1980 and 1981.

Table 10

Number of Students Recruited Who Paid Application Fees

Year	Males	Females	Total
1980	441	821	1262
1981	341	690	1031
Total	782	1511	2293

Table 10 depicts the number of applicants who paid application fees. The number of female applicants almost doubled the number of male applicants. Table 11 will show the number of applicants who actually enrolled.

Table 11

Number of Students Who Actually Enrolled

Year	Males	Females	Total
1980	261	451	712
1981	202	396	598
Total	463	847	1310

Table 11 shows the number of freshman students who actually enrolled in 1980 and 1981. More females enrolled than males. It also shows that slightly more than half of the applicants actually enrolled. Table 12 will show the drop-out rate for the class of 1980 over a three-year period.

Table 12

Drop-Out Rate for Class 1980
Over a Three-Year Period

Year	Males	Females	Total	Percentage
1981	72	127	199	28%
1982	79	127	206	57%
1983	28	32	60	65%
Total	179	286	465	65%

Table 12 shows that 65% of the entering class of 1980 dropped out over the three-year period. More females than males dropped out. However, more females than males were enrolled. Table 13 will show the drop-out rate for on-campus/off-campus students.

Table 13

Drop-Out Rate for Class of 1980
Over a Three-Year Period by Residence Sites

Year	Residence	Number	Percentage
1980	On-Campus	163	23%
1980	Off-Campus	302	42.4%
Total		465	65.4%

The data in Table 13 revealed that students who lived off-campus dropped out in larger numbers than students who lived on-campus. Table 14 will show a break-down of the drop-out rate by sex and residence for entering class of 1980.

Table 14

Drop-Out Rate of Residence and Sex for 1980

Year	Campus Males	Campus Females	Off-Campus Males	Off-Campus Females	Total	Percentages
1981	16	54	56	73	199	28%
1982	22	57	57	70	206	57%
1983	7	9	21	23	60	65%
Total	45	12	134	166	465	65%

The data revealed that 300 students who lived off-campus and 165 students who lived on-campus had dropped out after three years. Off-campus females had the highest drop-out rate after 3 years followed by off-campus male students. The lowest drop-out category consisted of on-campus males followed by on-campus females. Students who lived off-campus dropped out in larger numbers than students who lived on-campus. Table 15 will show the drop-out rate for the class of 1981 over a three-year period.

Table 15

Drop-Out Rate for Class 1981
Over a Three-Year Period

Year	Male	Female	Total	Percentage
1982	55	110	165	28%
1983	45	81	126	48%
1984	23	63	86	63%
Total	123	254	377	63%

Table 15 shows that the drop-out rate for each class at the end of the three-year period was over 60 percent. More females than males dropped out. Table 16 will show the drop-out rate for on/off campus students by residence sites.

Table 16

Drop-Out Rate for Class of 1981 Over a Three-Year Period by Residence Site

Year	Residence	Number	Percentage
1981	On-Campus	141	23.6%
1981	Off-Campus	236	39.4%
Total		377	63.0%

The data in Table 16 show that students who lived off-campus dropped out in larger numbers than students who lived on-campus. Table 17 will show a break-down of the drop-out rate by sex and residence for the entering class of 1981.

Table 17

Drop-Out Rate by Residence and Sex for 1981

Year	On-Campus Males	On-Campus Females	Off-Campus Males	Off-Campus Females	Total	Percentages
1982	48	21	34	62	165	28%
1983	10	34	35	47	126	48%
1984	3	25	20	38	86	63%
Total	61	80	89	147	377	63%

The data revealed that 236 students who lived off-campus and 141 students who lived on-campus had dropped out after three years. Off-campus females had the highest drop-out rate followed by off-campus males. The lowest drop-out rate was among on-campus males followed by on-campus females.

The drop-out trend in Tables 13 and 16 did not vary. The pattern for the two classes was identical with the only variation being larger number per category which reflected the fact that the class of

1981 was larger than the class of 1980. The percentage of drop-out by year varied slightly. It appears that living on-campus is positively related to retention.

At the end of three years, less than 40% of the class remained: 223 from the class of 1980 and 247 from the class of 1981. Table 18 will show the actual number of graduates by class.

Table 18

Number of Graduates by Class

Class	Number of Graduates	Percent	Non-Graduates Remaining	Percent
1980	124	17.4%	123	17.6%
1981	108	18 %	115	19 %
Total	232	35.4%	338	36.6%

Table 18 shows that less than 20% of the entering class of 1980 and 1981 graduated at the end of the four-year period. Table 19 describes those subjects in the study by residence site, year, and graduation status.

Table 19

Comparison of On-Campus/Off-Campus Graduates

Year	Residence	Status	Number	Percent
1980	On-Campus	Graduate	39	21.7 %
1980	Off-Campus	Graduate	30	17 %
1981	On-Campus	Graduate	13	7 %
1981	Off-Campus	Graduate	12	6.6 %
Total			94	52.3 %

Table 19 revealed that 52.3 of the subjects in the study graduated. Data presented in Table 20 will show a break down of the graduates in the study by residence and year.

Table 20

Summary of Graduation Rate for Subjects by Residence, Year, and Sex

Year	Residence	Sex	Graduates	Percentages
1980	On-Campus	Males	9	5 %
1980	On-Campus	Females	30	16.5 %
1980	Off-Campus	Males	9	5 %
1980	Off-Campus	Females	21	11 %
1981	On-Campus	Males	1	1.9 %
1981	On-Campus	Females	12	6.6 %
1981	Off-Campus	Males	3	1.5 %
1981	Off-Campus	Females	9	.5 %
Total			94	52.3 %

Table 20 shows the number of subjects in the study who graduated by entering year, residence and sex. Of the 180 subjects 94 graduated and 86 remained.

The third hypothesis stated that there will be no statistically significant difference in the level of participation in co-curricular activities of students who lived on-campus and students who lived off-campus.

A t-test was used to analyze the mean difference of the level of participation between on-campus and off-campus students. The results are shown in Table 21.

Table 21

Mean Participation Level by Residence and Sex

Residence Sites	Participation Level
On-Campus	1.35
Off-Campus	1.01
Difference	.34

The data tested at the .05 level of significance show that the level of participation is greater for on-campus students and statistically significant. Correlations run on the data showed a stronger relationship between living on-campus and participation in co-curricular activities than

living off-campus and participation in co-curricular activities. Table 22 shows the graduates' participation level by residence sites.

Table 22

Number of Graduates Who Participated in Co-Curricular Activities

Category	Number	Total
On-Campus	43	43
Off-Campus	31	31
Total	74	74

Table 22 revealed that students who lived off-campus participated in co-curricular activities in larger numbers than students who lived on-campus. Table 23 shows the graduates by residence site who did not participate in any co-curricular activities.

Table 23

Number of Graduates Who Did Not Participate in Any Co-Curricular Activites

Category	Number	Total
On-Campus	7	7
Off-Campus	9	9
Total	16	16

The data revealed that more graduates who lived off-campus participated less in co-curricular than graduates who lived on-campus. Table 24 will show the participation level of non-graduates in co-curricular activities.

Table 24

Number of Non-Graduates Who Participated in Co-Curricular Activites

Category	Number	Total
On-Campus	29	29
Off-Campus	27	27
Total	56	56

The data obtained show that non-graduates who lived on-campus participated in co-curricular activities in larger numbers than students who lived off-campus. Table 25 will show the non-graduates who did not participate in co-curricular activities.

Table 25

Number of Non-Graduates Who Did Not Participate in Co-Curricular Activities

Category	Number	Total
On-Campus	11	11
Off-Campus	23	23
Total	34	34

The data in Table 25 revealed that off-campus students who did not participate in co-curricular activities were larger in numbers than on-campus students who did not participate in co-curricular activities. Table 26 will show the mean distribution of students who participated in co-curricular activities.

Table 26

Mean Distribution of Students Who Participated in Co-Curricular Activities

On-Campus	Male	Females	Total
On-Campus	19	53	72
Off-Campus	19	39	58
Total	38	92	130

The data in Table 26 show that students who lived off-campus who did not participate in co-curricular activites were larger in numbers than students who lived on-campus.

The data show that the majority of the students in the study participated in co-curricular activities. It also shows that students who lived on-campus participated in larger numbers than students who lived off-campus. Seventy-four or 41 percent (41%) of the graduates participated in co-curricular activities. Sixteen or 9 percent (9%) of students who did not participate in any co-curricular activity graduated. Fifty-six or 31 percent (31%) of the non-graduates participated in co-curricular activities. Thirty-four or 19 percent (19%) of the non-graduates did not participate in any co-curricular activity.

Of the 180 subjects in the study 72% participated in co-curricular activities. As previously shown, students who lived on-campus participated in larger numbers than students who lived off-campus.

The data on participation support the assumption that students who were involved in co-curricular activities would remain until graduation.

CHAPTER V

FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Chapter V summarizes chapters 1 through IV and delineates the study's findings, conclusions and recommendations.

This study was undertaken to determine the effects of living arrangement on the academic performance and retention rate of college students over a four-year period.

The purpose of this study was to test the following hypotheses:

1. H_0: There will be no statistically significant difference in the academic performance of students who lived on-campus and students who lived off-campus.
2. H_0: There will be no difference in the retention rate of students who lived on-campus and students who lived off-campus.
3. H_0: There will be no statistically significant difference in the level of participation in co-curricular activities of students who lived on-

campus and students who lived off-campus.

Method of Research

The ex post facto method of research was used because it indicated that the research in question was conducted after variations in the independent variables had already been determined in the natural course of events. Data from existing files were collected and statistical analyses run to test Hypotheses 1 and 2. Percentages were used in hypothesis 2 to determine the retention rate.

Summary of Related Literature

The pertinent literature supports the fact that today's colleges are faced with high attrition rates and declining enrollments. Summerskill (1962) conducted a study of attrition rates over a 60-year period and concluded that attrition in college had not improved. The drop-out rate over a four-year period was still more than 50 percent. Cope (1978) predicted that approximately 6 million of the 15 million students entering college will never earn their undergraduate degrees.

With fewer students available and continuing high attrition rates, institutions have not only increased their recruitment efforts but have also

reviewed strategies for retention.

Noel (1982) concluded that the best approach to student retention is a concentrated effort to improve services which increase a student's desire to remain enrolled. The focus of a retention program should be on those services which enable students to clarify their educational goals and to relate those goals to the academic offerings on campus.

Indicators were provided in the literature to determine at the time of admission students with potential problems through the use of academic and biographical data. This information could be used to plan and implement early intervention programs (Astin, 1975; Shaffer, 1981).

The research findings on living arrangements differed. Some researchers argued that students who lived on-campus performed better academically and were more likely to attain the baccalaureate degree than students who lived off-campus (Astin, 1978; Chickering, 1969; Pascarella and Terenzini, 1982). Other researchers argued that students who lived off-campus performed as well as students who lived on campus (Campbell and Bassett, 1973; Chappel, 1984; Garni, 1979).

Since institutions differ in student and institutional characteristics, administrators can

not make generalizations regarding their attrition problem. Each institution needs to conduct research relative to the characteristics of the students and the characteristics of the institution.

Administrators who understand the attrition problem and the extent are in a position to plan programs that meet the needs of the students. The prime objective of any college is the transmittal of knowledge. Students must be provided an opportunity to have some common shared life which will serve as a foundation for intellectual and social interaction. Therefore, the assurance that the total environment is conducive for learning must be prioritized.

The literature review did not include any studies that had been done at historically black colleges; however, there were broad indicators that could apply to any institution. The implication of the literature review appeared to be that students retention is a by-product of improved services.

Findings

The findings of this study were derived from the data obtained from existing files at in three areas: findings regarding the academic performance of students who were enrolled over a specified four-

year period, findings regarding the retention rate of on-campus and off-campus students, and findings regarding the level of participation in co-curricular activities.

The following of findings relative to the study's three null hypotheses:

1. H_0: There will be no statistically significant difference in the academic performance of students who lived on-campus and students who lived off-campus.

The data were analyzed using a t-test to determine the significance of the mean difference between the academic performance of students who lived on-campus and students who lived off-campus.

The analysis of this set of data revealed no statistically significant difference at the .05 level of confidence. The hypothesis was accepted.

2. H_0: There will be no significant difference in the retention rate of students who lived on-campus and students who lived off-campus.

Data from the Registrar's Office were examined over the four-year period to determine the number of students who withdrew and the number of students who remained. The data were analyzed to determine the

retention rate of on-campus and off-campus students through the use of percentages.

The analysis revealed the following:

1) students who lived off-campus dropped out in larger numbers than students who lived on-campus.
2) female students dropped out in larger numbers than male students.
3) males who lived on-campus had the highest rate of retention followed by females who lived on-campus.
4) After 3 years the drop-out rate for both classes was over 60%.
5) The graduation rate over a four-year period was less than 20% of the entering classes.

The findings revealed that there was a significant difference in the retention rate of on-campus and off-campus students. The null hypothesis was rejected.

3. H_0: There will be no statistically significant difference in the level of participation in co-curricular activities of students who lived on-campus and students who lived off-campus.

Data on the subjects' level of participation in co-curricular activities were collected from the files and quantified using the following codes:

1. 0 - represented no participation
2. 1 - 2 - represented low to moderate participation in activities
3. 3 - 4 - represented full participation in activities

The obtained data were analyzed using a t-test to determine the significance of the participation level between the two groups. The analysis of this data revealed a statistically significant difference at the .05 level of confidence. The null hypothesis was rejected. The findings were:

1. Students who lived on-campus did participate in co-curricular activities more than students who lived off-campus.
2. More graduates participated in co-curricular activities than non-graduates.
3. Females participated in more activities than males and graduated in larger numbers than males.
4. Some graduates and non-graduates were not involved in any activities over the four-year period.

Conclusions

The findings of this study seem to warrant the following conclusions:

1. No statistically significance difference was found between the means of the two groups' academic performance. The null hypothesis was accepted.
2. A significant difference was found between the retention rate of students who lived on-campus and students who lived off-campus. The null hypothesis was rejected.
3. A statistically significant difference was found in the level of participation of students who lived on-campus and students who lived off-campus. The null hypothesis was rejected.

Implications

The following implications seem to be inherent in the conclusions drawn from the findings of this study:

1. Integration into the social system of the college appears to have a relatively

meaningful and direct effect on academic performance. Both groups of students appeared to have been not fully involved academically. Students who lived on-campus fared slightly better academically than students who lived off-campus. It appears that living on-campus still has a positive effect on academic performance and retention.

2. Intervention programs and additional support programs are needed to involve students fully in college life.
3. Academic and biographical data should be used at the time of admission to identify early students with potential problems and to direct them to support programs.
4. The attrition rate needs to be studied further to discover the reason(s) why large numbers of students leave this particular institution.
5. Special attention needs to be paid to commuting students who dropped out in larger numbers than residential students.
6. A system should be in place that recognizes and rewards outstanding teaching and advisement which are, according to the

literature, the cornerstones of retention.

7. Planned efforts should be made to involve all students in the curricular and co-curricular activities of the college.

Recommendations

The implications drawn from the conclusions seem to warrant the following recommendations:

1. That a review of the academic program and existing housing policies for freshmen be conducted.
2. That findings from the literature on what is known about the impact of living arrangement on college students be used to meet the needs of both groups in order to fully involve them into the college's social system.
3. That services to students such as improved teaching, advisement, counseling, and faculty/student interactions be improved.
4. That academic and biographical information be used by the Admission Office to identify admitted students with potential problems and that intervention programs be in place when the students arrive.

5. That faculty and staff who perform outstanding service be recognized and rewarded for their efforts.
6. That an effort be made to involve all students in at least two activities and that this process be continued throughout the student's period of matriculation.
7. By design, this study using the ex post facto method of research was limited to looking at what had already occurred, it is recommended that further research be done to determine the reason(s) for attrition at this particular institution.

Where a student lives while attending college affects attrition. Research has conclusively shown that students living off-campus are much more likely to drop-out than students living on-campus (Astin, 1973; Iffert, 1957; Newcomb, 1962).

According to Summerskill (1962), the percentage of students lost over a four-year period has not changed significantly in four decades. The median loss reported by these studies was 50%. The median of the graduating class four years later was 37%.

The findings of this study show that the attrition rate at the institution where the study

was conducted was over 50%. The findings also show that the graduation rate over a four-year period was less than 20% of the entering class. These findings are consistent with other researchers who have studied attrition (Cope, 1978; Iffert, 1957; Summerskill, 1962).

Throughout the nation reforms are being made to improve academic performance. The finding of this study showing no statistically significant difference between the mean academic performance of students who lived on-campus and students who lived off-campus is consistent with the finding of Weislogel (1979) and Mussano (1975).

Spady (1970; 1971) and Tinto (1975) provided new insight into the withdrawal process using a theoretical framework based on Durkheim's theory of suicide which stated that students who are involved in the college's social system tend to perform better academically and to persist longer. The findings of this study on the level of participation, the academic performance and the retention rate support this contention.

BIBLIOGRAPHY

Bibliography

Alfert, E. (1966) Housing and selection/need satisfaction, and dropouts from college. Psychological Reports, 19, 183-186.

Ary, D.; Jacobs, L. C.; and Razavieh, A. (1979) Introduction to research in education, (2nd ed.) New York: Holt, Rinehart and Winston.

Astin, A. W. (1968). The college environment. Washington, D.C.: The American Council on Education.

Astin, A. W. (1971). Predicting academic performance in college, New York: The Free Press.

Astin, A. W. (1973). The impact of dormitory living on students. The Educational Review, 54, 204-210.

Astin, A. W. (1973). Preventing students from dropping out, San Francisco: Jossey-Bass.

Astin, A. W. (1978). Four critical years, San Francisco: Jossey Bass.

Astin, A. W. (1984). Differing views of institutional quality. Journal of College Admission, 102 3-10.

Baungart, N. E., Johnston, J. N. (1977). Attrition at an australian university: A case study. Journal of Higher Education, 48, 553-570.

Beal, P. E. (1978). An experiment with mixed class housing assignment at the University of Oregon. Student Housing Research.

Bean, J. P. (1980). Dropouts and turnovers. Research in Higher Education, 12, 155-187.

Belfon, H. A. (1982). An evaluation of the impact of academic support programs upon achievement and attrition of college freshman, sophomore, junior and senior students. (Doctoral dissertation, Duke University, 1982) Dissertation Abstracts International, 43, 1056A.

Blanchfield, W. C. (1971). College dropout identification: A case study. Journal of Experimental Education, 40, 1-4.

Bliming, G. S. and Miltenberg, L. J. (1981). The resident assistant: working with college students in residence halls (2nd ed.), Dubuque, Iowa: Kendall/Hunt (pp. 11-20).

Brown, D. R. (1967). Student stress and the institutional environment. Journal of Social Issues, 23, 92-107.

Campbell, M., and Bassett, B. (1973). Campus housing: Beware! National Association of Women, Deans and Counselors, 36 (3), 112-124.

Carlson, J. S. and Wagner, K. W. (1965). College dropouts. Phi Delta Kappan, 46, 325-327.

Carney, M., and Gels, L. (1981, January). Academic performance and college attrition. Journal of College Student Personnel, 55-59.

Centra, J. A. and Rock, D. (1971). College environment and student academic achievement. American Educational Research Journal, 8, 623-634.

Chappel, J. P. (1984, Winter). Freshmen housing assignment: A road to student retention. Journal of College Admission (102), 27-28.

Chickering, A. W. (1969). The process of withdrawal. Liberal Education, 55, 551-558.

Chase, C.I. (1970). The college dropout: His high school prologue. Bulletin of the National Association of Secondary School Principals, 54, 66-71.

Cope, R. J. (1978). Limitations of attrition rates and causes given for dropping out of college. Journal of College Personnel, 9, 386-392.

Cope, R. G., and Hannah, W. (1975). Revolving college doors: The causes and consequences of dropping out, stopping out, and transferring. New York: John Wiley and Sons.

Cross, K. P. (1976). Accent on living: Improving instruction and reshaping the curriculum. San Francisco: Jossey-Bass.

Davis, P. H. (1962). Trustees, take heed of attrition. Liberal Education, 48, 479-486.

DeCoster, D. A. (1966). Housing assignment for high ability students. Journal of College Student Personnel, 7, 19-22.

DeCoster, D. A. (1968). Effects of homogeneous housing assignments for high ability students. Journal of College Student Personnel, 9, 75-78.

Donovan, R. (1984). Path analysis of a theoretical model of persistence in higher education among low-income black youth. Research in Higher Education, 21 (3), 243-259.

Durkheim, E. (1961). Suicide, (J. Spaulding and G. Simpson Trans.). Glencoe: The Free Press.

Endo, J. J. and Harpel, R. L. (1981, May). The effects of student-faculty interactions on students'educational outcomes. Paper presented at the Annual Meeting of the Association for Institutional Research, St. Paul, Minnesota.

Feldman, K.A. and Newcomb, T.M. (1969). The impact of college on students. San Francisco: Jossey-Bass.

Fuller, A. G. (1983, March). A strategy to improve retention. NACADA Journal, 3 (1), 65-72.

Garni, K. F. (1979, March). Attrition and graduation rate differences between commuter students admitted to an urban university in 1970 and 1974. College and University, 238-247.

Grites, T. J. (1981). On the scene. The School Counselor, 41-46.

Grites, T. P. (1981). Advising for special populations. In Winston, R., Ender, S., Miller, T. (Eds.). New directions for student services: developmental approaches to academic advising, 17. San Francisco: Jossey-Bass.

Grosz, R. D., and Brandt, K. (1969, Spring). Student residence and academic performance. College and University, 44 (3), 240-243.

Habley, W. R. (1981, Spring). Academic advisement: The critical link to student retention. NASPA Journal, 18 (4), 45-50.

Hardin, C.J. (1984). Design and development of a workbook/test to promote retention of first-year college students, (Doctoral dissertation, George Peabody College for Teachers of Vanderbilt University, 1984). Dissertation Abstracts International, 45, 1655A.

Hountras, P., and Brandt, K. (1970). Relation of student residence to academic performance in college. Journal of Educational Research, 63 (8), 351-354.

Iffert, R. E. (1957). Retention and withdrawal of college students. U. S. Department of Health Education and Welfare. Bulletin, 1, Washington, D.C.: U.S. Government Printing Office.

Iverson, B. K., Pascarella, E. T., and Terenzini, P. T. (1984). Informal faculty-student contact and commuter college freshmen. Research in Higher Education, 21 (2), 123-136.

Kohen, A. J., Nestle, G., and Karmas, C. (1978). Factors affecting individual persistence rates in undergraduate college programs. American Educational Research Journal, 15, 233-252.

Levin, B. H., and Clowes, D. A. (1982, March). The effects of residence hall living on the attainment of the baccalaureate degree. Journal of College Student Personnel, 23 (2), 99-104.

Little, J.K. (1959). The persistence of academically talented youth in university studies. Educational Record, 40, 237-241.

Mannon, G., and Preusz, G. C. (1980). Reducing student attrition on urban campuses. College Student Journal, 14, 19-23.

McDougal, Barbara M. (1981). A comparison of peer counseling versus faculty counseling in the retention of college freshmen. (Doctoral dissertation, The University of Tennessee, 1980). Dissertation Abstracts International, 43, 4291A.

Mehra, N. (1973). Retention and withdrawal of university students: A study of academic performance of a freshman class. Alberta: University of Alberta.

Miller, T.K. and Prince, J.S. (1977). The future of student affairs. San Francisco: Jossey-Bass.

Mood, A. (1971). Partitioning variance in multiple regression analyses as a tool for developing learning models. American Educational Research Journal, 8, 191-202.

Moos, R. and Lee, E. (1979). Comparing residence halls and independent living settings. Research in Higher Education, 11 (3), 207-220.

Munday, L. A. (1980). Factors influencing the predicitability of college grades. American Educational Research Journal, 7, 99-107.

Mussano, F. (1977). The correlation between study skills and general academic achievement for freshmen dormitory residents. (Report No. HE 008954). York, Pennsylvania: York College of Pennsylvania. (ERIC Document Reproduction Service No. 139-347).

Newcomb, T. M. (1962). Student peer-group influence. In N. Sanford (Ed.), The American College. New York: Wiley.

Noel, L. (1982, May). Great teaching - the corner-stone of student retention. Paper presented at the Joint Meeting of the Institute on Staff Development and the Conference of Presidents. National Institute for Staff and Organizational Development, The University of Texas at Austin.

Olsen, M.E. (1968). The process of social organization. New York: Holt, Rinehart, and Winston, 227-232.

Organ, C. P. (1982). The relationship between the school environment and student achievement in Virginia Elementary Schools, (Doctoral dissertation, the College of William and Mary in Virginia, 1981). Dissertation Abstracts International, 42, 4236A.

Panos, R.J. and Astin, A.W. (1968). Attrition among college students. American Educational Research Journal, 5, 57-72.

Pantages, T. J., and Creedon, C. F. (1978). Studies of college attrition: 1950-1975. Review of Educational Research, 48, 49-101.

Pascarella, E. T., and Terenzini, P. T. (1979). Interaction effects in Spady's and Tinto's conceptual model of college dropouts. Sociology of Education, 52, 197-210.

Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. Review of Educational Research, 50 (4), 545-596.

Pascarella, E. T., and Terenzini, P. T. (1980). Student-faculty and student-peer relationships as mediators of the structural effects of undergraduate residence arrangement. Journal of Educational Research, 73 (6) 344-353.

Pascarella, E. T., Duby, P. B., Miller, V. A., and Rasher, S. P. (1981). Pre-enrollment variables and academic performance as predictors of freshmen-year persistence, early withdrawals and stop-out behavior in an urban, non-residential university. Research in Higher Education, 15 (4), 545-596.

Pascarella, E. T., and Terenzini, P. T. (1982). Freshmen attrition and the residential context. (Report No. HE 014 992). Chicago, Illinois: University of Chicago--Chicago Circle, School of Education. (ERIC Document Reproduction Service No. ED 216 586).

Pascarella, E.T., and Terenzini, P.T. (1983). A path analytic validation of Tinto's theory of college attrition. (Report No. HE 016 262). Chicago, Illinois: University of Illinois at Chicago, Office of Institutional Research. (ERIC Document Reproduction Service No. ED 231 276).

Peng, S.S. and Feters, W.B. (1978). Variables involved in withdrawal during the first two years of college:Preliminary findings from the national longitudinal study of the high school class of 1972. American Educational Research Journal, 15, 361-372.

Prediger, D.J. (1965). Prediction of persistence in college. Journal of Counseling Psychology, 12, (1965):62-67.

Richling, J. (1975). 70 percent. New University Quarterly, 25, 135-138.

Riker, H. C., and Chickering, A. W. (1981). The modern american college. San Francisco:Jossey-Bass, p. 672.

Rogers, C.R. (1969). Freedom to learn. Columbus, Ohio:Charles E. Merrill.

Rootman, I. (1972). Voluntary withdrawal from a total adult socializing organization: A model. Sociology of Education, 45, 258-270.

Shaffer, G. S. (1981). Use of a biographical questionnaire in the early identification of college dropouts. (Report No. CG 015 458), Athens, Georgia: University of Georgia. (ERIC Document Reproduction Service No. ED 208 288).

Slocum, W. L. (1956). Social factors involved in academic mortality. College and University, 32, 53-64.

Spady, W. (1970). Dropout from higher education: An interdisciplinary review and synthesis. The Interchange, 1, 64-85.

Spady, W. (1971). Dropouts from higher education: Toward an empirical model. Interchange, 2, 38-62.

Stikes, C. S. (1984). Black students in higher education. Carbondale, Illinois: Southern Illinois University Press.

Stover, K. L., and Yokie, A. J. (1969). Residence halls and the future. NASPA Journal, 7 (2), 72-75.

Summerskill, J. (1962). Dropouts from college. In N. Sandford (Ed.), The American College. New York: Wiley.

Tata, C. J. (1981). The effect of an intrustive advisement program on first-term freshmen attrition. (Report No. HE 014 122). Arlington, Texas: University of Texas at Arlington, Research Associate. (ERIC Document Reproduction Service No. ED 205 096).

Taylor, R. G., and Hanson, G. R. (1971). Environmental impact on achievement and study habits. Journal of College Student Personnel, 12 (6), 445-454.

Tierney, S.H. (1985). Development of a model retention program for an urban university (Doctoral dissertation, Northeastern University, 1983). Dissertation Abstracts International, 45, 3045A.

Tinto, V. (1975). Dropouts from higher education: A theoretical synthesis of recent research. Review of Educational Research, 45, 89-125.

Troyer, D. K. (1984). Academic factors which related to the withdrawal of students in community college health occupation courses (Doctoral dissertation, The University of Texas at Austin, 1983). Dissertation Abstracts International, 45, 734A.

Vaizey, J. (1971). The cost of wastage. New University Quarterly, 45, 89-125.

Viehe, J. H. (1975). The difference between potential and achieved academic performance of freshmen residents at North Carolina State University. (Report No. HE 011 218). Raleigh, N. C.:North Carolina State University, Division of Student Affairs. (ERIC Document Reproduction Service No. ED 169 843).

Weislogel, L. F. (1977). Academic over - and underachievement and residence patterns: An associative study. (Report No. HE 009 611). Fort Lauderdale, Florida: Nova University, School of Education. (ERIC Document Reproduction Service No. ED 149 696).

Weissberg, M., Berentsen, M., Cote, A., Carvey, B., and Heath, K. (1982). An assessment of the personal career and academic needs of undergraduates. Journal of College Student Personnel, 23 (2), 115-122.

Younge, G. D. (1965). Students. Review of education research, 35, 253-279.

APPENDICES

APPENDIX A

Clark College
EXCELLENCE THROUGH INNOVATION

March 4, 1986

Mrs. Mary A. Ware
Associate Dean for Student
Development
Clark College

Dear Mrs. Ware: RE: Research Request

You have my permission and it sounds like a good project.

You will of course make the specific requests as they occur.

Sincerely yours,

Elias Blake

Elias Blake, Jr.
President

/gb

cc: Mr. Frederick A. Fresh
Mrs. Shirley Williams
Dr. Curtis Gillespie, Sr.
Dr. O.P. Puri
Dr. Florence C. Robinson
Dr. Robert Fishman
Dr. Alexa B. Henderson

Atlanta University
223 James P. Brawley Dr., S.W.
Atlanta, Georgia 30314-4391
(404) 681-0251

OOL OF EDUCATION

February 17, 1986

Dr. Elias Blake, Jr., President
Clark College
240 James P. Brawley Drive, S.W.
Atlanta, Georgia 30314

Dear Dr. Blake:

As you know, I am a student at Atlanta University pursuing the Doctor of Education degree in Educational Administration.

At this point, I have completed all of the requirements except the research for the dissertation. The research requirement is what I want to discuss with you. The ideas, that I discussed with you earlier, have now crystalized into a formal proposal that has been approved by my dissertation committee.

The proposed study will investigate the Effects of Living Arrangements on the Academic Performance and the Retention Rate of Freshmen over a Four-Year Period using an ex post facto design.

The population in the proposed study would consist of freshmen who entered Clark College in the Fall of 1980 and 1981 respectively.

From this population, I would select a sample of 200 students (100 students who lived on campus and 100 students who lived off campus) using the Scholastic Aptitude Test (SAT) to provide the equilibrium needed.

I am requesting permission from you to conduct the study at the College. The investigation would necessitate my using files that are located in the following offices:

Registrar's Office
Budget Office
Student Affairs Office
Divisional Chairs Office

There are three hypotheses being tested using the categorical variable living arrangement to determine the predictability of the theory that guides the study.

The theory predicts that students who are involved academically and socially into the life of the college tend to persist.

Consequently, I want to look at the academic records, involvement in co-curricular activities, records that show faculty/student interactions and the exit interviews for the subjects who persisted until graduation.

Should you deem it necessary to discuss this matter further, I would be happy to come to your office and to provide you the details that may not have been fully explained in this correspondence or any other pertinent details that you deem necessary.

Thank you for your consideration.

I look forward to your reply.

Sincerely,

Mary A. Ware

Mrs. Mary A. Ware
Associate Dean for Student
Development

APPENDIX B

CLARK COLLEGE

SENIOR QUESTIONNAIRE

CONFIDENTIAL

THE ANSWERS THAT YOU GIVE IN COMPLETING THIS QUESTIONNAIRE ARE CONFIDENTIAL AND WILL NOT BE LINKED WITH YOUR NAME OR IDENTITY IN ANY REPORT.

CLARK COLLEGE
SENIOR QUESTIONNAIRE

GENERAL INFORMATION

R NAME (please print) _____
FIRST MIDDLE/MAIDEN LAST

E STREET ADDRESS _____

_____
CITY STATE ZIP CODE

R AGE AS OF MAY 1, 1984: _____ SEX (check one) _____/_____
Female / Male

ENT'S/GUARDIAN'S NAME _____

ENT'S/GUARDIAN'S ADDRESS (if different from above) _____

_____
CITY STATE ZIP CODE

* * * * *
* * * * *

ME AND ADDRESS OF A PERSON WHO WOULD BE ABLE TO REACH YOU IN THE
TURE SHOULD YOU OR YOUR PARENTS NO LONGER BE AT ABOVE ADDRESS.

RSON'S NAME _____

REET ADDRESS _____

_____
CITY STATE ZIP CODE

pected date of gradution: May 1984 _____
August 1984 _____
December 1984 _____

CLARK COLLEGE
SENIOR QUESTIONNAIRE

GENERAL DIRECTIONS

cases you will be asked a question followed by a number of alternative responses. For the questions, CIRCLE THE NUMBER which corresponds to your response. Be sure that your ully encompasses only the number corresponding to your response. If possible, use a AD PENCIL. If you wish to change a response, please erase cleanly.

cases, special marking instructions will precede the question. PLEASE FOLLOW THESE IONS CAREFULLY. Answer all questions as accurately as you can.

GENERAL BACKGROUND INFORMATION

you? 1 - Single
2 - Married, no children
3 - Married, one or more children
4 - other

n: 1 - Black
2 - White
3 - American Indian or Alaskan Native
4 - Asian, Pacific Islander or Filipino
5 - Hispanic, Chicano or Spanish-speaking American
6 - Other

ch of the following best describes your e town?

Farm or open country
Small town (less than 15,000)
Small city (between 15,000 - 50,000)
City (between 50,000 - 250,000)
Large city (between 250,000 - 1,500,000)
Very large city (over 1,500,000)
Suburb in metropolitan area under 250,000
Suburb in metropolitan area of 250,000/ 1,500,000)
Suburb in metropolitan area over 1,500,000

n at home, you live with your:

Mother and father
Mother and step-father
Father and step-mother
Mother only
Father only
Grandparents or other relatives
Spouse
Other

t do you think your family's income was the past year (including all sources of mother's and father's earnings)? Make the best guess you can if you don't know for sure.

1 - $ 2,000 a year or less
2 - 2,000 to 4,999 a year
3 - 5,000 to 7,999 a year
4 - 8,000 to 10,999 a year
5 - 11,000 to 14,999 a year
6 - 15,000 to 19,999 a year
7 - 20,000 to 24,999 a year
8 - 25,000 to 29,999 a year
9 - 30,000 to 39,999 a year
10 - 40,000 to 49,999 a year
11 - 50,000 a year or more

6. What was the highest level of education completed by your parents? CIRCLE A RESPONSE FOR EACH PARENT.

Father	Mother	
1	1	Don't know
2	2	Grade School
3	3	Some high school
4	4	High school graduate
5	5	Some college
6	6	College graduate
7	7	Postgraduate, lawyer, doctor, etc.

7. Please classify your father's major occupation by CIRCLING THE NUMBERS corresponding to the categories which seem to fit best. (CIRCLE A RESPONSE FOR EACH PARENT)

FATHER	MOTHER	
01	01	Housewife or unemployed (your mother does not work or father unemployed or not now working)
02	02	Domestic service (such as maid, cook, nurse in a home)

ut how many students were in your high ool graduating class?

Fewer than 100

100 to 250

251 to 500

More than 500

Graduate Equivalent Diploma (GED)

raduated from high school with an rage grade point of:

A	5 - B-	9 - D+
A-	6 - C+	10 - D
B+	7 - C	11 - Doesn't apply
B	8 - C-	

raduated from high school with the llowing grade point averages:

Science	In Math	In English	Overall
- A	1 - A	1 - A	1 - A
- B	2 - B	2 - B	2 - B
- C	3 - C	3 - C	3 - C
- D	4 - D	4 - D	4 - D

COLLEGE LIFE

what semester and year did you first ter Clark College?

rst semester 19 ___

cond semester 19 ___

re you placed in a freshman cluster?

___ Yes _____ No If yes, which

uster? _____

no, would you have preferred being aced in a cluster? ___ Yes ___No

___ Maybe

re you in the Special Services Program?

___ Yes _____ No

re you in the Honors Program?

___ Yes _____ No

21. Did you begin your college career at this institution? _____ Yes _____No; I began at _____

Check if two-year college _____

22. How long have you been at Clark College?

1 - One Semester	4 - Three years
2 - One Year	5 - Four years
3 - Two years	6 - More than four years

23. For the degree area that you are now completing, were any of the credits earned from another college?

1 - No, they were earned at Clark

2 - Yes, from a two-year college

3 - Yes, from a college in the Atlanta University Center

4 - Yes, from another four-year college

24. For the degree program that you are now completing, did they require interaction or use of computers?

1 - No, my program did not use computers

2 - Yes, very limited use

3 - Yes, used frequently enough to consider myself computer literate

4 - Yes, extensive use, including one or more required courses in computer science

25. Did you use any of the counseling services offered at Clark College?

_____ Yes _____ No; If yes, please check the services used:

_____ Personal Counseling

_____ Career Counseling

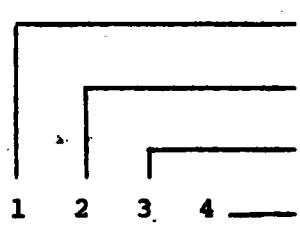
_____ Graduate/Professional Counseling

_____ Academic Counseling

26. What was the total amount of money you borrowed for your college education?

_____

PLEASE CIRCLE THE APPROPRIATE RESPONSE FOR ALL COLLEGE YEARS, EVEN IF THE RESPONSE IS THE SAME.



1. Very often
2. Frequently
3. Sometimes
4. Seldom or never

	During my Freshman Year	During my Sophomore Year	During my Junior and Senior Year
1. The courses contributed to how I now think about issues.	1 2 3 4	1 2 3 4	1 2 3 4
2. Students influenced what was taught in courses.	1 2 3 4	1 2 3 4	1 2 3 4
3. I discussed matters with teachers outside classroom hours.	1 2 3 4	1 2 3 4	1 2 3 4
4. Students learned a lot in their courses.	1 2 3 4	1 2 3 4	1 2 3 4
5. The quality of instruction was very good.	1 2 3 4	1 2 3 4	1 2 3 4
6. Courses were relevant to the students' futures.	1 2 3 4	1 2 3 4	1 2 3 4

For each of your college years, please list the total dollar amount of financial assistance you received from non-family sources. (The sum should equal the total borrowed.)

Freshman $ _____.00

Sophomore $ _____.00

Junior $ _____.00

Senior $ _____.00

Approximately how many hours did you work each week during each year in college? (CIRCLE NUMBERS CORRESPONDING TO RESPONSE FOR EACH YEAR.)

	None	1-15 hours	16-20 hours	21-39 hours	40 hours or more
Freshman Year	1	2	3	3	5
Sophomore Year	1	2	3	4	5
Junior	1	2	3	4	5
Senior	1	2	3	4	5

On the chart below, indicate the year you completed each of your General Education core requirements. Check one classification for each subject area:

Subjects	Freshman	Sophomore	Junior	Senior
English				
Mathematics				
Social Science/History				
General Psychology				
Religion and Philosophy				
Physical Education				
Physical/Biological Science				

Did you require five or more years to graduate from Clark College?
Yes _____ If so, please circle the appropriate response:

1 - Department or program course requirement

2 - Difficulty of courses

3 - Academic

4 - Withdrew from college for one or more semesters

5 - Reduced course load

6 - Other _____

7 - No, I did not require five or more years

List each organization you have joined since you have been at Clark College.

_____

_____

_____

_____

Did you hold an office in either of these organizations? If so, list all organizations and the offices held:

ORGANIZATIONS	OFFICES HELD

34. Did you ever withdraw from college?

_____ Yes; I withdrew because of (circle one)

1 - Personal reasons

2 - Family problems

3 - Financial difficulty

4 - Academic reasons

5 - Other _____
(Specify)

35. If you withdrew from college, how long were you out before you returned?

_____

_____

36. If you have considered leaving Clark, what influenced you to stay?

1 - Teacher(s)

2 - Family

3 - Peers

4 - Counselors

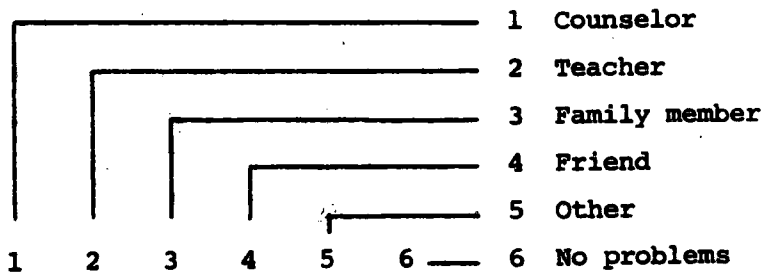
5 - Others _____
(Specify)

37. What were your housing arrangements during college? Give situation for most of year. (CIRCLE NUMBERS CORRESPONDING TO RESPONSE FOR EACH YEAR.)

(CONTINUED ON NEXT PAGE)

	Dormitory Main Campus	On Campus CC Courts	Off Campus With Parents/ Guardians	Metro Atlanta Resident	Off Campus Non-Metro Atlanta Resident
Freshman Year	1	2	3	4	5
Sophomore Year	1	2	3	4	5
Junior Year	1	2	3	4	5
Senior Year	1	2	3	4	5

PLEASE CIRCLE THE APPROPRIATE RESPONSE FOR ALL COLLEGE YEARS, EVEN IF THE RESPONSE IS THE SAME.



	During My Freshman Year	During My Sophomore Year	During My Junior Year	During My Senior Year
1. Who gave you the most assistance with your personal problems?	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
2. Who gave you the most assistance with your academic problems?	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
3. Who gave you the most assistance with your financial problems?	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
4. Who gave you the most assistance with your choice of a career?	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

PLEASE CIRCLE THE NUMBER INDICATING YOUR PRESENT GRADE POINT AVERAGE:

	D 1.49 or less	C- 1.50 to 1.79	C 1.80 to 2.19	C+ 2.20 to 2.49	B- 2.50 to 2.79	B 2.80 to 3.19	B+ 3.20 to 3.49	A- 3.50 to 3.79	A 3.80 to 4.00
Major Field GPA	1	2	3	4	5	6	7	8	9
Minor Field GPA	1	2	3	4	5	6	7	8	9
Overall GPA (Cumulative)	1	2	3	4	5	6	7	8	9

FRESHMAN YEAR EXPERIENCES

As a result of my experience as a freshman, I am better able to relate to family members.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

As a result of my experiences as a freshman, my study skills have strengthened.

_____ Strongly agree _____ Agreee _____ Somewhat agree

_____ Disagree _____ Strongly disagree

As a result of my freshman experiences, my career awareness has broadened.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

As a result of my experiences as a freshman, my interpersonal relationships are better.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

As a result of my experiences as a freshman, my community relationships have improved.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

CLUSTERED STUDENTS ONLY

SE RESPOND TO THE FOLLOWING ITEMS IF YOU WERE PLACED IN A FRESHMAN CLUSTER:

I enjoyed being a part of a cluster team.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

I liked having most of my classes with the same students.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

The cluster experience influenced my remaining in school.

_____ Strongly agree _____ Agree _____ Somewhat agere

_____ Disagree _____ Strongly disagree

I felt close to my teachers during the cluster experience.

_____ Stronlgy agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

I formed lasting friendships during my freshman year.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

What I liked most about the cluster experience was: _____

_____

_____

What I liked least about the cluster experience was: _____

_____

_____

I would recommend a continuation of the cluster program for incoming freshmen.

_____ Strongly agree _____ Agree _____ Somewhat agree

_____ Disagree _____ Strongly disagree

Black college students should attend:

1 - Predominantly White colleges

2 - Racially integrated colleges

3 - Predominantly Black colleges

If you could be in exactly the college you wanted, how many of the students would be Black?

1 - None
2 - A few
3 - About half
4 - Most
5 - Just about all

If you could be in the college you wanted, how many of the teachers would be Black?

1 - None
2 - A few
3 - About half
4 - Most
5 - Just about all

FUTURE PLANS

What are your future plans following graduation?

1 - Get a job in business

2 - Start a business or franchise

3 - Enter a profession (teaching, ministry, etc.)

4 - Attend graduate or professional school

5 - Be inducted into the armed forces

6 - Volunteer for some social service organization (VISTA, Peace Corps, Urban League, SCLC, etc.)

7 - Other _____ (Specify)

8 - Don't know

57. What is the highest academic degree you expect to obtain?

1 - Bachelor's degree (BA, BS, etc.)

2 - Master's degree (MA, MS, MFA, etc.)

3 - Specialist's degree (beyond the Master's level)

4 - Ph.D., Ed.D., or equivalent

5 - MD, DDS, or DVM (medicine)

6 - LLB or JD (law)

7 - Bachelor of Divinity

8 - Other

58. From the lists below, select your undergraduate major field, your undergraduate minor field, your planned field of graduate study (if you plan to attend graduate school), and your probable vocational field.

PLEASE WRITE THE NUMBER CORRESPONDING TO EACH APPROPRIATE RIELD IN THE SPACED PROVIDED BELOW.

MY UNDERGRADUATE MAJOR _____

MY UNDERGRADUATE MINOR _____

(CONTINUED)

(CONTINUED)

MY PROBABLE GRADUATE FIELD _____
MY PROBABLE VOCATIONAL FIELD _____

TIONAL FIELDS
ling & Guidance
ion Administration
tary Education
al Education and
tion
ary Education
l Education
e Teacher

SCIENCE FIELDS
y
conomics
ics
y & Archival
e
Science
logy
Work
gy
tudies
an Civilization
an Studies
merican Studies

ESS, POLITICAL
ERSUASIVE FIELDS
ting
ising
ss Administration
rs)
ss & Commerce (2 yrs.)
ng & Insurance
ess Machines Technology
e Machines & Procedures
rocessing
ics
e
Motel & Restaurant
ment
rial Relations

ry
cal Science, Government
lic Administration
n Services
ational Relations
Relations
anship and Retailing
arial Science

al

TIFIC FIELDS
y
pology
ology
omy
y or Genetics

try
phy
y or Geophysics

450 Mathematics or Statistics
455 Meteorology
460 Oceanography
465 Physics
470 Physiology
475 Zoology or Entomology

HEALTH FIELDS
604 Dentistry
606 Dental Assisting
608 Dental Hygiene
610 Dental Etchnology
614 Medicine
616 Medical Assisting
618 Medical Technology
620 Mortuary Science
625 Nursing (Practical)
630 Nursing (Registered)
635 Occupational Therapy
640 Optometry
645 Osteopathy
650 Pharmacy
655 Physical Therapy
660 Radiology and X-Ray Technology
670 Chiropractic

ARTS AND HUMANITIES FIELDS
705 Arts and Sculpture
710 Architecture
712 Architectural Design & Drafting
714 Architectural Technology
715 Creative Writing
720 Drama and Theater
725 English & English Literature
730 Foreign Language & Literature
735 General Education
740 Journalism
745 Liberal Arts (Transfer)
750 Music
755 Philosophy
760 Photography
765 Radio-TV Communications
770 Speech

ENGINEERING FIELDS
805 Aeronautical
810 Agricultural
815 Architectural
820 Automotive
825 Chemical or Nuclear
830 Civil
835 Electrical or Electronic
840 Engineering (Transfer)
842 Engineering Technology
845 Geological
850 Industrial
855 Mechanical
860 Metallurgical
865 Mining
870 Petroleum

905 Computer Science
910 Medical Records
915 Medical Illustrations

998 My major field of training or vocational field is not included in the fields listed below

59. Was the undergraduate major field selected your first choice on entering college?

_____ Yes _____ No

If no, please list the major field (or fields) that you originally selected and briefly comment on why you changed fields. (Use codes listed under question 58.)

CODE

____ _____

____ _____

____ _____

COMMENTS:

_____

_____

_____

_____

_____

60. Please circle the appropriate number

How many job applications have you made and how many job offers have been received from what sectors of the job market?

	APPLICATIONS	OFFERS
A. Private Business/ Industry	0 1 2 3 4 5+	0 1 2 3 4 5
B. City Government	0 1 2 3 4 5+	0 1 2 3 4 5
C. Federal Government	0 1 2 3 4 5+	0 1 2 3 4 5
D. School System for Teaching	0 1 2 3 4 5+	0 1 2 3 4 5
E. Other	0 1 2 3 4 5+	0 1 2 3 4 5

61. Name and location of job accepted.

_____

_____

How many applications have you made to graduate and professional schools?

Graduate Schools of Arts and Sciences	0 1 2 3 4 5
Professional Schools	
Law	0 1 2 3 4 5
Medicine	0 1 2 3 4 5
Dentistry	0 1 2 3 4 5
Business	0 1 2 3 4 5

To what graduate and professional schools has admission been granted?

1. _____
2. _____
3. _____
4. _____
5. _____

How many times did you visit Clark College's Counseling Center?

1 - Never
2 - 1-2
3 - 3-5
4 - 6-10
5 - 11 or more

Where did you obtain your information about graduate/professional school?

1 - Not applicable
2 - Relatives and friends
3 - Faculty
4 - Counseling Center
5 - Directly from the schools
6 - Other _____ (Specify)

Are you registered with the Alumni Office? _____ Yes _____ No

Would you be willing to assist the Alumni Office in organizing an Alumni Chapter? _____ Yes _____ No

Will you consider sending your children to Clark College?

_____ Yes _____ No _____ Maybe

Will you consider recruiting students for Clark in the future?

_____ Yes _____ No

Will you keep the Alumni Office informed about achievements (e.g., educational, job, etc.)?

_____ Yes _____ No

Are you on file (registered) at the Placement Center.

_____ Yes _____ No

71. How many times did you visit the Placement Center?

	Freshman Year	sophomore Year	Junior Year	Senior Year
Never				
1 - 2				
3 - 5				
6 - 10				
11 and above				

72. Were you employed through the Placement Center?

_____ Yes

_____ No; (If no, go to question 73)

73. What method did you use in obtaining employment?

1 - Unemployed
2 - College Placement Service
3 - Employment Agency
4 - Newspaper, Radio or TV ads
5 - Direct application to employers
6 - Attendance at a Job Fair
7 - Friend or relative
8 - Department
9 - Other _____ (Specify)

74. What did you like most about Clark?

75. What did you like least about Clark?

ease rank the services of the following offices at Clark College during your stay here.

OFFICE	I Had No Interaction	EXCELLENT Extremely Helpful	GOOD Very Helpful	AVERAGE Helpful	POOR Not Helpful	EXTREMELY POOR Not Helpful And Negative
Admissions						
Alumni Affairs						
Business Affairs						
College Relations						
Counseling						
Dean of Faculty						
Dean of Students						
Development						
Financial Aid						
Library						
Major Department						
Placement						
Planning & Budget						
President						
Registrar						
Title III						
Vice President						

LEASE MAKE ANY OTHER GENERAL COMMENTS YOU WISH.

Thank you for this meaningful contribution.

Elias Blake, Jr.
President

APPENDIX C

RAW DATA FILE

X	SAT SCORE	NUMBER	CUM GPA	GRAD NG	EXTRA CLASS PART	SEX	SAT SCORE	AGE	NUMBER	CUM GPA	GRAD NG	E C A
	500	1	2.917	GRAD	P	F	500	21	1	2.910	GRAD	P
	500	2	2.134	GRAD	PL	F	500	20	2	2.783	GRAD	P
	540	3	1.544	GRAD	O	F	540	22	3	2.258	N/G	P
	550	4	2.334	N/G	P	F	550	21	4	1.144	N/G	P
	550	5	2.405	N/G	O	M	550	22	5	1.642	N/G	P
	550	6	2.627	GRAD	PL	F	550	22	6	2.402	GRAD	P
	550	7	2.950	GRAD	P	F	550	21	7	1.733	N/G	C
	550	8	3.091	GRAD	PL	F	550	21	8	1.956	N/G	P
	550	9	2.497	N/G	P	F	550	21	9	2.476	GRAD	P
	560	10	2.997	GRAD	O	F	560	21	10	2.775	GRAD	C
	570	11	2.905	GRAD	P	M	570	22	11	3.295	GRAD	P
	570	12	2.484	GRAD	O	F	570	21	12	3.535	GRAD	P
	580	13	2.855	GRAD	O	F	580	21	13	2.55	N/G	P
	580	14	2.209	N/G	O	F	580	22	14	2.037	N/G	P
	580	15	2.024	N/G	PL	F	580	23	15	2.956	N/G	P
	590	16	2.173	N/G	O	M	590	22	16	2.369	N/G	P
	590	17	2.160	GRAD	O	M	590	22	17	2.661	GRAD	P
	590	18	2.008	GRAD	P	F	590	22	18	2.360	N/G	P
	600	19	2.146	GRAD	P	F	600	22	19	2.475	GRAD	P
	600	20	2.605	GRAD	P	F	600	21	20	2.523	GRAD	P
	600	21	2.500	N/G	PL	M	600	22	21	2.500	N/G	C
	610	22	2.914	GRAD	P	F	610	22	22	2.366	GRAD	P
M	610	23	2.098	N/G	O	F	610	22	23	2.858	GRAD	C
	610	24	2.792	N/G	O	F	610	22	24	2.362	GRAD	P
M	610	25	3.290	N/G	P	F	610	22	25	2.285	GRAD	P
	610	26	2.596	N/G	P	F	610	22	26	2.205	GRAD	P
	620	27	2.668	N/G	P	F	620	21	27	2.384	GRAD	P
	620	28	2.845	N/G	O	F	620	21	28	2.571	GRAD	P
	620	29	2.147	N/G	PL	M	620	21	29	2.571	GRAD	P
	620	30	2.068	N/G	O	F	620	21	30	3.044	GRAD	P
	620	31	3.070	GRAD	P	M	620	21	31	1.541	N/G	C
	620	32	2.195	GRAD	O	F	620	21	32	2.623	GRAD	P
	620	33	2.389	N/G	O	F	620	21	33	1.742	N/G	C
	630	34	2.644	N/G	P	F	630	21	34	2.958	GRAD	C
	630	35	2.818	GRAD	PL	M	630	22	35	2.176	N/G	P
M	630	36	2.150	GRAD	PL	M	630	21	36	3.108	N/G	P

SAT SCORE	NUMBER	CUM GPA	GRAD NG	EXTRA CLASS PART	SEX	SAT SCORE	AGE	NUMBER	CUM GPA	GRAD NG	EX CL AC
670	1	2.386	GRAD	PL	F	670	22	1	2.496	GRAD	P
670	2	2.538	GRAD	P	F	670	22	2	2.502	GRAD	C
670	3	3.409	N/G	P	F	670	22	3	2.688	GRAD	P
670	4	2.642	N/G	P	F	670	22	4	3.292	GRAD	P
680	5	2.470	N/G	O	F	680	22	5	2.413	N/G	P
680	6	2.000	N/G	PL	F	680	21	6	2.918	GRAD	P
680	7	2.649	GRAD	O	F	680	21	7	2.551	N/G	P
680	8	2.047	N/G	O	F	680	22	8	2.069	N/G	P
690	9	2.297	N/G	PL	M	690	21	9	3.625	GRAD	P
690	10	2.908	GRAD	P	F	690	22	10	3.032	GRAD	P
700	11	2.007	N/G	O	F	700	22	11	2.138	GRAD	P
700	12	2.571	GRAD	O	F	700	22	12	2.822	GRAD	O
700	13	2.241	N/G	P	F	700	21	13	2.476	N/G	O
700	14	2.782	GRAD	P	F	700	21	14	3.649	GRAD	P
710	15	2.234	GRAD	PL	F	710	21	15	2.802	GRAD	P
710	16	3.017	GRAD	P	M	710	22	16	2.947	N/G	P
720	17	2.740	GRAD	P	M	720	23	17	3.383	N/G	P
720	18	1.876	N/G	P	M	720	21	18	3.157	GRAD	P
730	19	2.492	N/G	O	F	730	22	19	2.292	GRAD	P
730	20	2.299	N/G	O	F	730	22	20	3.025	GRAD	P
740	21	2.500	N/G	PL	F	740	22	21	3.291	GRAD	P
740	22	3.058	GRAD	P	F	740	21	22	3.423	GRAD	P
740	23	2.077	N/G	O	F	740	22	23	1.842	N/G	O
740	24	2.754	GRAD	P	F	740	22	24	3.040	GRAD	O
750	25	1.972	N/G	PL	M	750	21	25	2.807	N/G	P
750	26	2.835	GRAD	P	M	750	21	26	3.143	GRAD	P
760	27	2.211	N/G	P	F	760	21	27	2.158	N/G	P
770	28	3.289	N/G	P	F	770	21	28	3.033	GRAD	P
770	29	1.714	N/G	PL	F	770	20	29	2.186	N/G	P
770	30	2.279	N/G	O	M	770	21	30	1.815	N/G	C
780	31	2.828	GRAD	P	F	780	20	31	3.041	N/G	P
790	32	3.491	GRAD	O	M	790	22	32	1.398	N/G	C
790	33	1.527	N/G	O	F	790	23	33	2.482	N/G	P
790	34	3.325	GRAD	P	M	790	20	34	1.857	N/G	P
800	35	2.277	N/G	O	F	800	22	35	3.268	GRAD	P
830	36	1.846	N/G	O	F	830	23	36	3.661	N/G	P

X	SAT SCORE	NUMBER	CUM GPA	GRAD NG	EXTRA CLASS PART	SEX	SAT SCORE	AGE	NUMBER	CUM GPA	GRAD NG	EX CL AC
	850	37	2.891	GRAD	PL	F	850	20	37	3.086	N/G	O
	880	38	3.039	GRAD	O	M	880	21	38	2.023	N/G	P
	890	39	2.792	GRAD	P	M	890	21	39	2.274	N/G	O
	970	40	2.914	N/G	P	M	970	21	40	3.706	GRAD	P

SAT SCORE	NUMBER	CUM GPA	GRAD NG	EXTRA CLASS PART	SEX	SAT SCORE	AGE	NUMBER	CUM GPA	GRAD NG	EX CL AC
630	37	3.109	GRAD	P	F	630	21	37	3.119	GRAD	P
640	38	2.877	N/G	P	F	640	22	38	2.436	GRAD	O
640	39	3.189	GRAD	P	M	640	21	39	2.806	N/G	O
640	40	1.654	N/G	O	F	640	22	40	2.658	GRAD	P
650	41	1.892	N/G	O	M	650	22	41	2.237	N/G	P
650	42	1.766	N/G	O	F	650	21	42	2.576	N/G	P
650	43	3.150	N/G	PL	F	650	22	43	2.713	GRAD	P
650	44	3.727	GRAD	PL	F	650	22	44	2.811	N/G	P
660	45	2.067	N/G	PL	F	660	22	45	2.803	GRAD	P
660	46	2.923	GRAD	P	M	660	22	46	2.540	GRAD	P
660	47	1.808	N/G	O	F	660	20	47	3.443	GRAD	P
660	48	2.723	N/G	P	M	660	22	48	2.348	N/G	P
660	49	2/723	N/G	P	M	660	22	49	2.348	N/G	P